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CLINICAL EVALUATION OF ASIATIC INFLUENZA VACCINE IN ALBERTA

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CHANGING VIEWS ON TUBERCULOSIS AS A NATIONAL AND INTERNATIONAL PROBLEM

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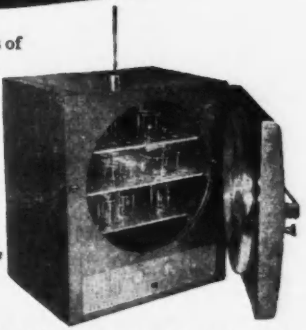

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Canadian Journal of
PUBLIC HEALTH

VOLUME 50 TORONTO, MAY 1959 NUMBER 5

Clinical Evaluation of Asiatic Influenza Vaccine in Alberta

E. S. ORFORD SMITH, M.B., D.P.H., and DAPHNE I. CLEMENTS, M.D.[1]

BY the beginning of July 1957 the world-wide pandemic of Asiatic influenza had spread throughout the Middle and Far East, and had reached Czechoslovakia, the Netherlands and Australia. The disease was appearing for the first time in the United States, but had not yet invaded Canada.

With the approval of provincial departments of health the Department of National Health and Welfare decided at this time to arrange with the Institute of Microbiology in Montreal, and with the Connaught Medical Research Laboratories in Toronto, for the production of a monovalent Asiatic influenza vaccine. Since the amount of vaccine which could be produced at short notice was obviously limited, it was intended that it should be used for the protection of certain priority groups with the object of maintaining the most essential of community services.

The freedom from the disease which Canada had enjoyed up to that time provided an almost unique opportunity for a planned evaluation of the vaccine. The Department of Public Health in Alberta was among the provincial departments which accepted the invitation to conduct a controlled study. A special allocation of vaccine and placebo was arranged for this purpose, and was supplied by the Institute of Microbiology.

Method of Investigation

Plans were made in collaboration with the Faculty of Medicine at the University of Alberta for a study involving 1,200 university students, half of whom were to be inoculated with vaccine while the other half received the placebo. The vaccine and placebo did not become available, however, until two weeks after the beginning of term. Outbreaks of epidemic influenza, in the meantime, had been occurring in the province for some three or four weeks, and by the time the study material arrived a hundred or more students had already been stricken.

[1]Provincial Department of Public Health, Edmonton, Alberta.

It was therefore necessary to abandon these plans. The only group of comparable size which the disease was known not to have reached, and which could be kept under adequate medical supervision for a period of several months, was the patient population at the Provincial Mental Institute, several miles from Edmonton.

Some 1,035 long-term patients participated in the study. Each received a subcutaneous injection of 1 cc. of either the vaccine or the placebo. The two substances were of similar physical appearance, and were labelled with the letters A and B. Their respective identities were known only to the labeller, who did not take part in the conduct of the trial, so that all possibility of bias was eliminated both in the inoculating and in the subsequent assessment of individual illnesses.

Results of Observation

Observation was maintained for a total period of seventeen weeks, from the beginning of the second week in October until the end of January, and the development of any influenza-like illness was recorded. While the epidemic among the general population reached its peak by the middle of October, nearly three-quarters of the illnesses among the study population occurred after the third week in October.

The results of observation upon the two groups are summarized in tables I and II. Where an individual suffered more than one influenza-like illness, attention has been confined to the first of such episodes. It will be noted that the groups were of approximately equal size, and that both males and females were proportionately divided between them. Since patients were allocated at random, without regard to age, it may be assumed that the groups were comparable from the viewpoint of their composition.

TABLE I—Results of Clinical Observation of Patients Inoculated with Material A (Asiatic Influenza Vaccine)

Result of Observation	Male	Female	Total
Influenza-like illness			
(a) Within 1 week after inoculation	2	2	4
(b) Within 2 weeks after inoculation	3 } 10	1 } 20	4 } 30
(c) More than 2 weeks after inoculation	5	17	22
No influenza-like illness	300	189	489
Total of vaccine recipients	310	209	519

TABLE II—Results of Clinical Observation of Patients Inoculated with Material B (Placebo)

Result of Observation	Male	Female	Total
Influenza-like illness			
(a) Within 1 week after inoculation	2	4	6
(b) Within 2 weeks after inoculation	7 } 36	6 } 39	13 } 75
(c) More than 2 weeks after inoculation	27	29	56
No influenza-like illness	272	169	441
Total of placebo recipients	308	208	516

Of the 519 patients who received vaccine, clinical symptoms of influenza were recorded in 30, or 5.8%, while of the 516 who received placebo, symptoms were observed in 75, or 14.5%. Since the proportion of illnesses occurring during the first two weeks was approximately the same (about one-quarter)

in each group, it was not considered necessary to exclude these cases in assessing the results. The significance of these findings is discussed later.

Two of the patients died from pneumonia which was believed in each case to be of influenzal origin. A 46-year-old man became ill eleven days after receiving placebo, and died three days later, while another man, 51 years of age, developed an influenza-like illness fourteen days after receiving vaccine, relapsed after two weeks and died within three more days.

Comparison with Intradermal Vaccination of Staff

It is interesting to compare the results of this trial with the experience which followed the inoculation of staff members at the Provincial Mental Institute, 349 of whom received Asiatic influenza vaccine about one week after the inoculation of the patients as part of the program for the immunization of priority groups. The vaccine in this instance came from the Connaught Medical Research Laboratories, and, in an endeavour to stretch the limited supply as far as possible, the Provincial Department of Public Health had recommended that an intradermal dose of 0.1 cc. be used in place of the subcutaneous dose of 1 cc. advocated by the manufacturers.

Records were maintained for vaccinated staff members in the same way as for patients, but those who reported having had an influenza-like illness before inoculation and those who resigned before the end of the observation period were excluded from the evaluation. The results of observation are shown in table III. It is noted that of the 184 staff members who were eligible for evaluation, clinical symptoms of influenza were recorded in 134 (42.1%). This is nearly three times the incidence which was observed among unvaccinated patients.

TABLE III—Results of Clinical Observation of Staff Inoculated Intradermally with 0.1 cc. Asiatic Influenza Vaccine

Result of Observation	Male	Female	Total
Influenza-like illness			
(a) Within 1 week after inoculation	21	18	39
(b) Within 2 weeks after inoculation	16 } 50	22 } 84	38 } 134
(c) More than 2 weeks after inoculation	13	44	57
No influenza-like illness	94	90	184
Total eligible for evaluation	144	174	318
Excluded by reason of			
(a) Influenza-like illness before inoculation	6	19	25
(b) Resignation	3 } 9	3 } 22	6 } 31
Total vaccinated by intradermal route	153	196	349

The incongruity which exists between the morbidity rates clearly indicates that a comparison between patients and staff is not valid in these circumstances. In seeking the reasons, we are reminded that many of the staff members were exposed to infection before they were ever inoculated; through their contacts outside the hospital, moreover, most of them were subjected to a daily risk against which the patients were effectively protected.

Test of Statistical Significance

To test the significance of the observations on the study population, we may apply the following formula for the standard error of the difference between two proportions:

$$S.E. = \sqrt{\frac{p_1q_1}{n_1} + \frac{p_2q_2}{n_2}},$$

where p and q represent the percentage health and morbidity rates and n is the number in the group.

We therefore have:

$$S.E. = \sqrt{\frac{94.2 \times 5.8}{519} + \frac{85.5 \times 14.5}{516}}$$

$$= \sqrt{\frac{546.36}{519} + \frac{1239.75}{516}}$$

$$= \sqrt{1.05 + 2.40} = \sqrt{3.45} = 1.9$$

The difference between the percentage morbidity rates is 14.5 — 5.8, which equals 8.7. Since this difference is greater than three times the standard error, we are able to conclude that p is less than 0.01, and that the difference shows a high degree of statistical significance.

The morbidity rate of 5.8% which was observed among the patients who received vaccine is just two-fifths of the morbidity rate of 14.5% which was observed among those who received placebo. We conclude from this that the degree of protection afforded by a single subcutaneous dose of 1 cc. of vaccine was three-fifths or 60%.

For an evaluation of the intradermal vaccination of staff members, it would have been necessary for half of this group to serve as a control, preferably after inoculation with a placebo, and for the other half to receive the vaccine before becoming exposed to infection.

Summary

A field trial of Asiatic influenza vaccine is described in which more than one thousand patients in a mental hospital participated. Half of the series received a single subcutaneous dose of 1 cc. of vaccine, while the other half received a similar dose of placebo. A morbidity rate of 5.8% was observed in the vaccinated group, compared with a rate of 14.5% in the control group, indicating a protection rate of 60%.

The results of vaccinating members of the hospital staff with 0.1 cc. of vaccine by the intradermal route are also described, but no valid comparison can be made.

ACKNOWLEDGEMENTS

The authors wish to acknowledge their indebtedness to the Department of National Health and Welfare and to the Institute of Microbiology for providing the facilities for this evaluation; to Dr. A. D. MacPherson and members of the staff at the Provincial Mental Institute for their co-operation in the study; and to Dr. A. Somerville, Deputy Minister of Health, for his permission to publish this report.

The Ontario Department of Health[1]

J. T. PHAIR,[2] M.B., D.P.H., and R. D. DEFRIES,[3] M.D., D.P.H.

ONTARIO AS A PROVINCE

ONTARIO, stretching more than a thousand miles from east to west and a thousand miles from north to south, is the second largest of the Canadian provinces. Its total area is 412,582 square miles, of which 88% is land and 12% lakes and rivers.

For a decade and a half, this province has enjoyed an extraordinarily high rate of population growth and industrial expansion. The nation's leading manufacturing industries are concentrated in Ontario. Ontario is a great agricultural province and agriculture still ranks as its economic mainstay.

The population in 1958 was 5,803,276 as compared with 5,600,000 in 1957. The quinquennial census of 1956 showed that Ontario's population was growing by 161,000 a year—an average annual rate of increase of 3.3%—one well above that of the rest of Canada and double that of the United States. The province contains twenty-nine cities which have a population of over three million or approximately 50% of the total population.

In 1957, the general death rate was 8.7 per thousand (Canada 8.2); birth rate 26.8 per thousand (Canada 28.3); infant mortality rate 25.0 per thousand living births (Canada 30.9); and maternal mortality rate was 0.4 per thousand living births (Canada 0.5).

The provincial government estimates for public health expenditures for 1958–1959 totalled $73,498,000. This compares with a total provincial budget of $932,946,000 which is made up of $336,900,000 in capital expenditure and $596,046,000 in ordinary expenditure. The budget for the Department of Welfare, including ordinary expenditures of $43,000,000 and capital spending of $11,500,000, totals about $55,000,000.

HISTORICAL HIGHLIGHTS

1882—Public Health Act was passed providing a provincial board of health. Members were Drs. Wm. Oldwright (chairman), D. W. Coverndon, Horace Yeomans, Francis Rae and J. J. Cassidy; John Galbraith, M.A., C.E., and Peter H. Bryce, M.A., M.B., Secretary (part-time). The budget was $4,000.

1884—A comprehensive public health act prepared by Dr. Bryce was adopted and more than 400 local boards of health were formed. Dr. Bryce was appointed to serve full-time.

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[1]One of a series presenting the development and organization of public health in each of the provinces and the Department of National Health and Welfare of Canada.

[2]Consultant, Ontario Department of Health.

[3]Director Emeritus and Consultant, Connaught Medical Research Laboratories, University of Toronto.

1885—Devastating outbreak of smallpox occurred in Quebec (more than 7,000 deaths of which 3,425 were in Montreal). During this time only 21 deaths from this disease occurred in Ontario due to strict enforcement by Dr. Bryce of vaccination on all persons entering Ontario.
Compulsory Vaccination Act was passed providing, also, for vaccine production.

1886—First provincial association of medical officers of health.

1890—The provincial bacteriological laboratory, probably the first public health laboratory in North America, was opened under J. J. Mackenzie, B.A.

1892—Dr. Bryce was appointed Deputy Registrar General of Vital Statistics.

1895—Authority was given to the provincial board to require that all plans for water supplies and sewage works be submitted for approval.

1897—Opening of the first sanatorium for treatment of tuberculosis patients at Gravenhurst.

1900—Dr. John A. Amyot was appointed provincial bacteriologist, and in 1910 he was appointed professor of hygiene in the Faculty of Medicine, University of Toronto, continuing in these appointments until 1919 when he became Deputy Minister of National Health, Ottawa.

1903—Dr. Charles A. Hodgetts, medical inspector in the department, succeeded Dr. Bryce as Chief Health Officer, the latter having resigned to become Chief Medical Officer in the Department of Immigration in Ottawa.

1904—The first branch bacteriological laboratory was opened at Queen's University, Kingston, under Dr. W. D. Connell. An experimental plant in Toronto was opened for investigation of water treatment and sewage disposal methods.

1910—Dr. J. W. S. McCullough, who had been a member of the provincial board since 1906, was appointed Chief Officer of Health and Deputy Registrar General succeeding Dr. Hodgetts who resigned to become Medical Adviser to the Committee on Conservation in Ottawa.

1911—A branch public health laboratory was opened in London, Ontario. The first provincial sanitary engineer was appointed.

1912—Revision was made of the Public Health Act. The province was divided into ten health districts and full-time district health officers were appointed.

1916—Free distribution of essential public health biological products to physicians was commenced. Ontario was the first province to provide this service.

1918—Venereal Diseases Prevention Act was passed with provision of free treatment clinics.
Devastating outbreak of influenza, 1918–19.

1919—The provincial board of health was transferred from the Department of the Provincial Secretary to the Department of Labour.
Additional branch public health laboratories were opened at Fort William, Sault Ste. Marie, North Bay (1920), Owen Sound and Peterborough (1921) and Ottawa (1922).

1920—Divisions of Child Hygiene and Public Health Education were established. Division of Industrial Hygiene was formed, the first in Canada.

1923—Department of Health replaced the Provincial Board of Health. Hon. Dr. Forbes Godfrey was appointed Minister of Health and Labour.
Insulin was distributed without charge to diabetics in Ontario.

1925—Dr. W. J. Bell appointed Deputy Minister and Dr. J. W. S. McCullough, Chief Inspector of Health.
The Division of School Hygiene in the Department of Education (1919) was transferred to the Department of Health to form part of the combined Divisions of Maternal and Child Health and Public Health Nursing.
Division of Dental Hygiene was created.
Registrar General's Branch was transferred to the Department of Health and designated the Division of Vital Statistics.

1927—Opening of the new East Block of the Parliament Buildings provided enlarged space for the Department of Health.

1930—Hon. Dr. J. M. Robb was appointed Minister of Health. The Department of Hospitals was established under the direction of the Minister of Health, giving direction to hospitals, sanatoria, and mental institutions (previously in the Provincial Secretary's Branch).
The Division of Vital Statistics was transferred to the Provincial Secretary's Department.
The Division of Pathology was created in the central diagnostic laboratories providing province-wide service.

1931—Royal Commission on Cancer was appointed to inquire into the use of radium and X-ray.

1932—The Ontario Institute of Radiotherapy Act established treatment centers in Kingston, Toronto and London (later Windsor, Ottawa (2), and Hamilton).

1934—The Department of Health and the Department of Hospitals were merged.
Hon. Dr. J. A. Faulkner, was appointed Minister of Health and Dr. B. T. McGhie, Deputy Minister.
The division of the province into health districts and the position of district medical officer of health were discontinued. Eastern Ontario Health Unit was organized, including the counties of Russell, Prescott, Stormont and Glengarry, with the co-operation of the Rockefeller Foundation.

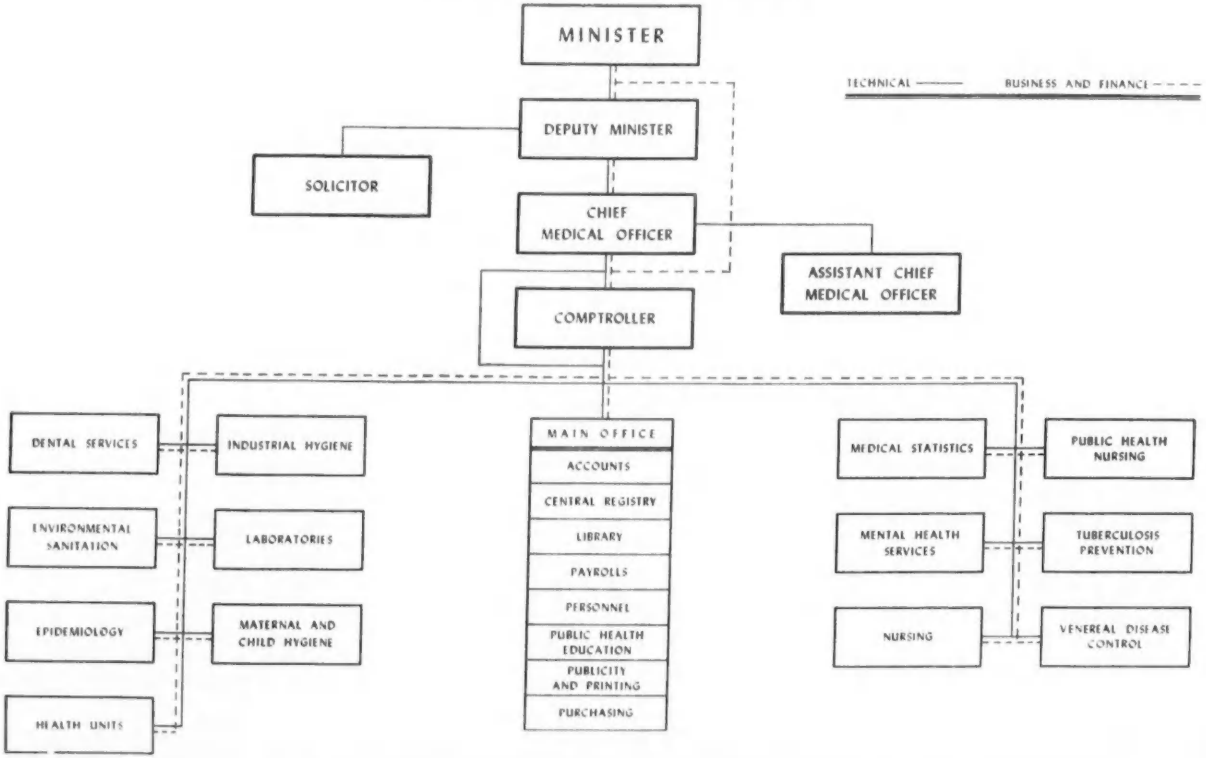
1935—Dr. J. W. S. McCullough retired after 25 years of outstanding service in the department. Dr. J. T. Phair was appointed Chief Medical Officer of Health.

1936—Distribution of insulin was limited to indigent patients.
Division of Public Health and Medical Statistics was established.
Hon. Mr. H. J. Kirby was appointed Minister of Health.

1937—Serious outbreak of poliomyelitis occurred—2,544 cases and 109 deaths.
Trial was commenced of convalescent poliomyelitis serum, distributed by the department.

1938—Treatment costs of indigent tuberculosis patients were assumed by the province.

ONTARIO DEPARTMENT OF HEALTH



Legislation was passed requiring compulsory pasteurization of all milk and cream in urban and certain designated rural municipalities.

1940—Legislation was enacted establishing full-time health units and the first unit was opened. Participation of the School of Hygiene, University of Toronto and the Department of Health in the health services of the township of East York (Toronto) as a field training center. In initiating this program, the Rockefeller Foundation assisted.

1943—Hon. Dr. R. P. Vivian was appointed Minister of Health.
Act was passed incorporating the Ontario Cancer Treatment and Research Foundation.

1945—Capital grants to aid in the construction of public general hospitals.
Hon. Russell T. Kelly was appointed Minister of Health.

1946—Dr. B. T. McGhie (deceased) was succeeded by Dr. J. T. Phair as Deputy Minister.

1947—Progress was made in organizing full-time health units—20 units and 12 urban health departments provided full-time services to approximately 60% of the population.

1948—Four additional health units were opened.
Alcoholism Research Foundation Act was passed.
Severe epidemic of poliomyelitis occurred with 1,135 cases and 77 deaths.

1950—Hon. Mackinnon Phillips, M.D., was appointed Minister of Health.
Two additional health units were opened making a total of 27 units.

1951—First clinical treatment with the Cobalt 60 beam therapy unit was given at the London clinic.

1954—Poliomyelitis outbreak with 1,109 cases and 118 deaths—highest since 1937.

1955—Trial of Salk polio vaccine in Ontario, 71 cases occurred among 960,000 children not vaccinated and 5 among 840,000 vaccinated.

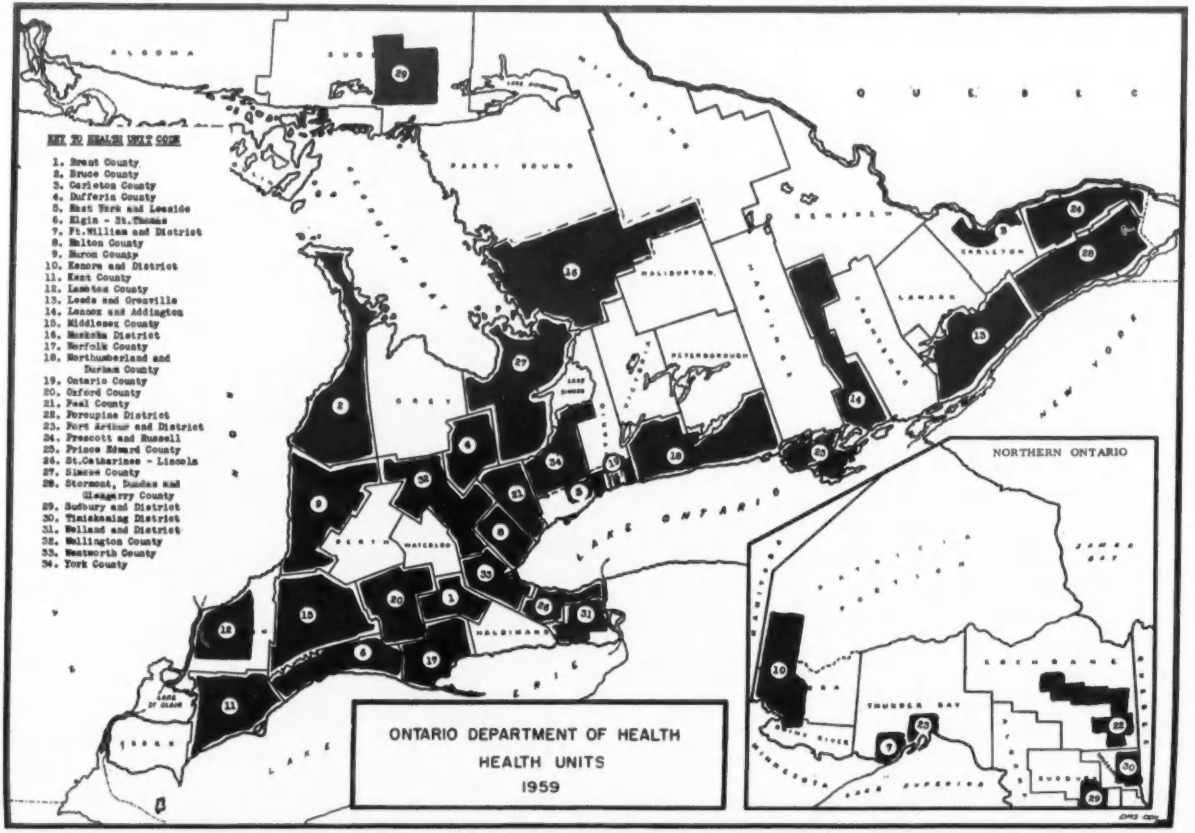
1957—Ontario Water Resources Commission was established and the responsibilities of the Division of Sanitary Engineering were transferred to the Commission.
Division of Environmental Sanitation was formed.
Ontario Hospital Services Commission was appointed and with the exception of mental hospitals, the hospital responsibilities of the Department of Health were transferred to the Commission.

1958—Dr. J. T. Phair retired as Deputy Minister. Dr. W. Gordon Brown was appointed Deputy Minister.
Thirty-three health units served 2,000,000 of the population.
Princess Margaret Hospital was opened under the auspices of the Ontario Cancer Treatment and Research Foundation.

1959—Hon. Dr. M. B. Dymond was appointed Minister of Health.
Provincial hospital insurance plan became effective on January first.

ORGANIZATION AND ADMINISTRATION OF PUBLIC HEALTH

The Provincial Department of Health for Ontario is under the direction of a Minister, who is assisted by the Deputy Minister and Chief Medical Officer


KEY TO HEALTH UNIT CODE
1. Brant County
2. Bruce County
3. Carleton County
4. Dufferin County
5. East York and Leaside
6. Elgin - St.Thomas
7. Ft.William and District
8. Halton County
9. Huron County
10. Kenora and District
11. Kent County
12. Lambton County
13. Leeds and Grenville
14. Lennox and Addington
15. Middlesex County
16. Muskoka District
17. Norfolk County
18. Northumberland and Durham County
19. Ontario County
20. Oxford County
21. Peel County
22. Porcupine District
23. Port Arthur and District
24. Prescott and Russell
25. Prince Edward County
26. St.Catharines - Lincoln
27. Simcoe County
28. Stormont, Dundas and Glengarry County
29. Sudbury and District
30. Timiskaming District
31. Welland and District
32. Wellington County
33. Wentworth County
34. York County
NORTHERN ONTARIO
ONTARIO DEPARTMENT OF HEALTH
HEALTH UNITS
1959

of Health. For administrative purposes, the Department is divided into 13 divisions, each with a director. Much in the way of administrative help is given by such ancillary officers as the comptroller, chief accountant, and solicitor. The Minister is usually a medical man but not necessarily so. The Deputy Minister and Chief Medical Officer of Health are required by statute to be physicians registered in the province. The role of official interest includes the fields of prevention, diagnosis and treatment. Within the last three years, official concern with the provision of community water supplies and the disposal of sewage has been assumed by the Ontario Water Resources Commission, the control of milk production by the Milk Control Board, general hospital operation by the Hospital Services Commission.

HEALTH UNITS BRANCH

Legislation permitting the establishing of full-time health units was passed in 1940. The first unit was Stormont, Dundas and Glengarry in eastern Ontario. It was expected that there would be a rapid increase in the number of health units following the close of the war. This did occur but the expansion was delayed by the shortage of trained public health personnel. The provision of bursaries through the national health grants in 1948 has been an important factor in helping to meet the problem of obtaining senior staff members.

In 1944, the Porcupine Unit in Northern Ontario was opened. In 1945 six units were organized: Kirkland-Larder Lake, Welland and District, Northumberland and Durham, Elgin-St. Thomas, St. Catharines-Lincoln and Oxford County and Ingersoll. In 1946 seven units were added: Dufferin County, Prescott and Russell, Prince Edward County, Bruce County, Peel County and Lambton County. East York-Leaside and Leeds and Grenville were organized in 1947. Thus there were 20 units functioning by the close of that year. In 1948 four more were added: Carleton, Kenora-Keewatin, Simcoe and Wellington counties and in 1949 Huron County.

By 1956 there were 27 units with Muskoka District and York County being added. In 1956 Wentworth County, Sudbury and District and Port Arthur and District were organized. In addition, large sections of the unorganized areas of northern and north-western Ontario were added to existing units. In 1957, Ontario County (Southern Area) and Norfolk County were added bringing the total to 33 and the population served was 2,000,000. In 1958, Carleton health unit which had been disbanded in 1950 was re-established. In addition, four counties have a county public health nursing service. The full-time staff providing public health services includes 43 physicians (one for 47,500 population) 353 public health nurses (one for 5,200 population) 985 sanitary inspectors (one for 20,000 population) 6 public health dentists, 3 public health veterinarians, with secretarial and clerical staff. Full-time health services of cities and health units provide for over 80% of the population of the province. Of the remaining 20% half are provided with public health nurses.

The provincial grant to health units in 1958 amounted to approximately $869,124. The increasing use of national health grants has made possible many new projects.

DIVISION OF EPIDEMIOLOGY

This division concerns itself with the possible control of outbreaks of communicable disease, not only through investigation when they occur, but in anticipation of such occurrence. Comparative statistical records are maintained of all outbreaks. This division is responsible for the distribution of all useful biological products. Insulin (all recognized varieties) is distributed through this division. Since 1934, gratuitous distribution has been limited to those declared by the local authority as unable to procure needed insulin without financial hardship. The cost of biological products and insulin in 1957 was $351,113. Responsibility for the identification and care of chronic typhoid carriers is assumed by the division. Seventy-seven carriers are presently registered in Ontario. Eight of these who had to relinquish their only known livelihood receive compensation of $40.00 per month from the department. Air transport of emergency cases of illness or injury occurring in unorganized municipalities is arranged through the division. The provision of needed hospital accommodation for those suffering from paralysis following poliomyelitis is directed through this division as is the geographically appropriate placement of respirators.

LABORATORIES

The statement has been made that the Province of Ontario was the first official agency to offer this type of diagnostic service in North America. Certainly, it was the first in Canada. The service was originally limited to bacteriology but sanitary chemistry was soon made available. Clinical pathology was later added and, last, gross pathology. While the bulk of the work done is medical microbiology (77.7% of units of service), sanitary chemistry, bio-chemistry and haematology are a time-consuming part of the service. All service is free and is carried on in 13 regional laboratories and 5 associated laboratories. Only in clinical and tissue pathology are charges made. The virus section and the section devoted to the diagnosis of fungal infections are increasingly popular. Skin test antigens are made available to the medical profession. Where there is an outbreak of infectious disease in a remote area a mobile unit is available for service, or it is frequently stationed in one or other of the tourist resort areas for the use of the regional sanitary officers. The training of laboratory technologists is an important activity of the laboratory branch. A full-time course, based in the Central Laboratory, has recently been added to the two-year course in medical laboratory technology, sponsored jointly by the Ryerson Institute of Technology and the Department of Health. The latter has been carried on for some time. During 1957 the total work performed was 2,439,017 examinations on 1,313,491 specimens representing 5,916,768 "units" (1947 English unit schedule). Eighty-seven per cent of the total service was "free" routine and 13% "charge" routine.

VENEREAL DISEASE CONTROL DIVISION

Official concern with the control of venereal diseases was an aftermath of World War I. Rather exacting legislation was enacted to deal more adequately with those infected with these conditions and, as a result, the Venereal Disease

Control Division was established. The control program called for the establishment of free clinic services, compulsory reporting, and obligatory treatment. Most of the bill was paid by the Department. With the shift in treatment from arsenicals, mercurials, etc. to penicillin, the program changed materially. The clinic feature and the free treatment in non-clinic centers have lost much of their significance. The major role of the division at present is one of a consultant authority with respect to problems of diagnosis and treatment as well as the management of obscure or difficult cases. There were 410 cases of syphilis (8 per 100,000) in 1957 in contrast with 2,303 cases in 1948 (54 per 100,000). Of gonorrhoea, there were reported 3,997 cases in 1948 and 1,930 cases in 1957.

PUBLIC HEALTH NURSING DIVISION

At present, the service offered by this division is a completely consultant one. Members of the staff assume a defined degree of interest in the adjustment of newly appointed nurses during an introductory period when they are working alone and give direction, where needed, to the service in areas where there is no other professional leadership. The divisional staff extends a measure of supervision over public health nursing projects where financial assistance is given by the province. Where new techniques are introduced locally and some assistance is required, staff members are available for this purpose.

The division also offers aid in the development of official aspects of the public health program, e.g. health teaching at the school level, group instruction in maternal hygiene, community nutritional programs. The senior members of the divisional staff are responsible for screening applicants for postgraduate bursaries.

NURSING BRANCH

This branch concerns itself with the inspection and supervision of nurse training schools, whether sponsored by hospitals or other acceptable agencies. The course of study, the teaching staff (both quantitatively and qualitatively) and the teaching facilities are all matters of this division's concern.

The conduct of the training program for those seeking certification as nursing assistants is also undertaken by this branch. A consultant service in respect to better functioning of the nursing service in hospitals is also offered. This has proved to be a most useful contribution to better nursing care in hospitals. Bursaries for advanced training in nursing administration and teaching are offered through this division.

NUTRITION PROGRAM

Under the direction of a consultant in nutrition 13 conferences were held in 1957 in various parts of the province. The diets in mental hospitals are studied. Through the Ontario Interdepartment Nutrition Committee, the departments of Agriculture, Education, Health and Welfare confer on nutrition problems.

MATERNAL AND CHILD HYGIENE

This aspect of the Department's over-all program is carried on by a team of specially trained physicians and nurses. Statistical assistance is also available.

At the moment, while not overlooking the value of the older methods of public and professional education relating to the problems of perinatal mortality, interest has been directed to improvement of the care of newborn infants in hospitals. Nurse consultants visit all general hospitals annually, or oftener if necessary. They discuss with the nursery staff nursing techniques, the proper use of special equipment (which is supplied without cost) such as incubators, resuscitators, oxygen analysers and equipment for formula preparation rooms. They discuss with hospital staffs the utilization of grants available from the Department for alterations and renovations needed to bring nurseries and formula rooms up to standard. Short courses in nursing care of normal and premature infants are held annually at the University of Toronto School of Nursing.

The division, in co-operation with the division of laboratories, fosters a program of basic Rh typing. This service was initiated two years ago and is available to all physicians.

DIVISION OF TUBERCULOSIS PREVENTION

Ontario has accomplished much in tuberculosis control. In 1900 the mortality rate from tuberculosis was 160.0 per 100,000 population. In 1958 the rate was 3.1 per 100,000! The first sanatorium was opened at Gravenhurst in 1897.

The program of this division varies little from that in effect in any other province in Canada, namely, widespread free diagnostic centers are operated in strategic areas by members of the staff of the Department of Health. The staff visits centers of population which are not too well served by case-finding services. Some of these are operated by the municipality, with or without aid from the Department, others by the staff of neighbouring sanatoria. Mention should be made of the various county tuberculosis associations which meet in part or in whole the expenses of over 200 clinics in the province. A special effort is made regularly to reach people in the more sparsely settled areas of the province by mobile units (specially equipped buses), by travelling railway car and special clinics. Mass surveys are still a useful approach to case-finding despite the mounting cost and the unwarranted fear of the hazards of radiation. The required submission of all patients, not *in extremis*, to a chest X-ray upon admission to hospital has resulted in the uncovering of a significant, but not large, number of previously unrecognized cases of tuberculosis. It has, likewise, been a useful aid in the diagnosis of unsuspected cardiovascular lesions of the chest. The program is substantially supported by the Provincial Department and special X-ray units are provided without cost to the hospitals. Sanatoria beds are no longer at a premium, and more of them are available for the care of patients suffering from less-disabling forms of tuberculosis. These include recalcitrant infectious patients and prisoners found to have tuberculosis through surveys in the jails and other places of detention. The control of tuberculosis in industry is undertaken in co-ordination with the Division of Industrial Hygiene and the control of the disease among treaty Indians in co-operation with the Department of National Health. Emphasis is placed on the peculiar diagnostic needs of people specially employed such as teachers, school board employees, bush workers, restaurant workers, food handlers, etc. The

increasing incidence of tuberculosis in older age groups is recognized and special attention has been directed to residents in homes for the aged.

MENTAL HEALTH DIVISION

This branch of the Department is the most significant one in terms of staff and spending. It has, as its objective, on the one side, effective treatment and adequate care based on the particular needs of the patient, and, on the other side, an exhaustive approach to all those things incorporated in the term "preventive psychiatry".

Active treatment is carried out in the hospitals and training schools distributed stategically throughout the province. No treatment agent or technique that has any established or presumed merit is overlooked. The observation and treatment of emotionally disturbed patients in public general hospitals is now common practice in most, if not all, of the larger centers.

Day care centers for the treatment of those suffering from an emotional upset that does not require full-time stay in hospital are being developed as fast as staff can be made available.

In the field of prevention, most of the provincial mental hospitals offer an outpatient diagnostic and rehabilitation service. In addition to this, 16 full-time community psychiatric units have been established by the province. Seven of these are travelling clinics, each of which maintains a regular schedule of visits to centers adjacent to the hospital from which it stems.

The first formal venture into the field of child psychiatry was taken by the Department with the establishment of a 75-bed treatment center on the outskirts of Toronto. To date, admissions are being limited to the under-twelves, although it is planned, when the recreational facilities are complete, to admit adolescents up to 18 years. The results of this project are awaited with interest.

The continued increase in demand for care and training of mentally defective children, particularly in the youngest age groups, taxes the ingenuity and resources of the Department.

The training of psychiatrists, psychologists, psychiatric nurses and, now, mental health counsellors, has long been an implied obligation of the Department. The subject of research is being dealt with more realistically by the establishment of facilities, the provision of clinical material and well equipped staff.

In 1957, there were 20,171 resident patients in 16 Ontario mental hospitals with a full-time staff of 7,776. At the same time 850 patients were being cared for in approved homes.

DIVISION OF DENTAL SERVICES

Formal interest in the support of school dental services is maintained through grants. The extent of the grant paid varies in urban and rural areas, the latter being the more favoured. The grants currently amount to $30,000 a year. A dental clinic is maintained in each of the 17 mental hospitals, either through the services of a part-time or full-time dentist. The prosthetic work is done in a centrally-located laboratory. The division provides dental care to children situated in communities along the Canadian Pacific and Canadian National Railways. This service is rendered through specially equipped railway coaches

which are moved from one community to another daily or weekly. This service is gratuitous. In 1957, 17 communities were visited and approximately 2,000 children received dental care. Dental health education is assisted and the Department subsidizes a number of programs and projects.

DIVISION OF MEDICAL STATISTICS

The Division of Medical Statistics acts in an advisory and consultative capacity to all divisions of the Department in the compilation, analysis, interpretation and application of statistical data and also in the planning and conduct of special studies and surveys. A significant proportion of the service rendered by the division takes this form.

The division undertakes in cancer control the collection, tabulation, and analysis of cancer data recorded by the eight Ontario cancer clinics. Routine and special analyses of available data on cancer incidence and mortality are also undertaken.

In the field of mental health, the division is responsible for the collection, tabulation, and analysis of Ontario mental health and hospital statistics. The program is directed toward making possible the most effective use of all recorded data for administrative and medical purposes.

In the dental public health the principal objective is to conduct and give consultative aid to research in preventive dental measures and the evaluation of their public health application.

In general, the division undertakes to be aware of the essential sources of public health statistics and makes special compilations of mortality and morbidity data, as required.

INDUSTRIAL HYGIENE

Ontario pioneered in the field of industrial hygiene. The return has been more than adequate both in the demonstrable improvement in the health of workers and the resulting sense of accomplishment. Among the many special fields of interest is the prevention of silicosis among miners in the gold-mining fields and among moulders, stone workers, core makers, and other foundry workers in Southern Ontario. Probably the next most significant group showing evidence of exposure to industrial hazards are those with occupational dermatitis. The division operates a most complete industrial hygiene laboratory designed for the examination of air samples, for the detection of the presence of dust, arsenic, lead, phosphoric acid, uranium, etc. Hazards associated with radiation are recognized and preventive procedures have been initiated.

The conducting of health centers in all places where civil servants work involves much time and effort. A plant for the manufacture of radon seeds is also a responsibility of the division. Enforcement of the pesticide and bedding regulations rests with the division and a recently established branch is concerned with the control of air pollution. Responsibility for an air pollution control program is assumed by the interested municipality, but the department provides laboratory and consultative services. It is hoped to expand this field of public health to the point where all large corporations, etc. will become concerned with the correction of the offending unit, stack or piece of equipment.

ENVIRONMENTAL SANITATION

The Environmental Sanitation Division was established in 1957 upon dissolution of the former division of Sanitary Engineering.

With the establishment of the Ontario Water Resources Commission, the supervision of public water supplies, public sewage disposal, plumbing regulations, and stream pollution control which were formerly carried out by the sanitary engineering division, ceased to be the administrative responsibility of the Department of Health. The control of milk production, including pasteurization of all public milk supplies, is vested in the Department of Agriculture under the Milk Control Board.

The Environmental Sanitation Division is responsible for the administration of the requirements of the Public Health Act and related legislation in respect to private water supplies, private sewage and waste disposal, pasteurization areas, milk and food sanitation, summer camps, school water supply and sewerage approvals, refuse disposal, frosted food locker plants, slaughter houses and meat processing plants, cemeteries and other aspects of environmental sanitation.

The division assists and guides the local boards in the enforcement of the eating establishment regulations and the swimming pool regulations. It also acts in a consulting capacity to the municipal authority in all matters of environmental sanitation. Advice and assistance are given to the local boards in setting their program of raw milk supervision.

Guided by a departmental committee, the division administers the Environmental Sanitation Training Center, the main function of which is the basic and graduate training of sanitary inspectors.

DIVISION OF HEALTH INFORMATION

Almost since its inception, the Department has formally recognized the need for distributing as widely as possible all usable health information. A special division for this purpose was set up as far back as 1920. The purpose of the first Division of Health Education was to disseminate widely health information in non-technical terms. Later, it was found desirable to inform the public about the activities of the Department also.

This division co-ordinates departmental publicity, public relations, advertising and printing. The work has recently been extended to provide greater public relations coverage. Participation in exhibitions and fairs is an important service.

THE ONTARIO HOSPITAL SERVICES COMMISSION

While not an integral part of the Department as such, it is an administrative affiliate. The purpose of the Commission is to provide or to ensure the provision of prepaid hospital insurance for all residents of the province regardless of their ability to pay for such service. The plan is compulsory only if the individual is on the payroll of an organization employing 15 or more persons. If the employees number from 6 to 14, the employer may request the Commission to enrol his employees as an employed group. Collection groups such as credit unions, co-operatives, professional associations and retail merchants' associations, etc. may apply to the commission for approval to act as a

"collector" of premiums for their members. The enrollment has reached a total of 95% of eligibles.

The premium payment is made by payroll deduction, group collection, or quarterly payment in advance by individual subscribers. The plan is supported at both federal and provincial levels of government. The local authority subscribes on behalf of those on its relief roll. Hospital indigents, i.e., those on blind or disabled pension, old age security pension, and some others are not required to enrol, but this privilege is extended only after a means test. All those not enrolled in the plan prior to January 1, 1959 must submit to a waiting period of three months from the time of enrolment.

The scheme has no limitations on duration of hospital stay. It is presumed that long-stay patients not requiring continuous active treatment may be transferred from an active treatment unit to a chronic or convalescent hospital.

All necessary services beyond accommodation, meals and nursing services, e.g. laboratories, radiological services, drugs, biologicals, etc., the use of the operating room, case room, anaesthetic facilities, radiotherapy and physiotherapy where available, etc. are provided without additional cost. Emergency out-patient services within 24 hours following an accident are included. These provide the use of emergency operating room, anaesthetic facilities, routine surgical supplies, diagnostic procedures, etc. In the case of sudden illness or accident away from home, reimbursement for the cost of emergency hospital care received outside the province will be made up to the value of similar care which the plan would have provided in a comparable hospital in Ontario.

LIBRARY SERVICE

A specialized reference and information service is maintained, providing a lending library and a central agency for the ordering of books and periodicals. During 1957 over 8,000 loans were made including books and periodicals to the central and regional laboratories and mental hospitals.

The Promise of Public Health[1]

EDWARD G. McGAVRAN,[2] M.D., M.P.H., D.Sc.

SOME four years ago, I had the opportunity and pleasure of talking to the Canadian Public Health Association upon the concept of public health as a distinctive profession with focus and competence in the scientific diagnosis and treatment of communities' health needs and health status. At that time the concept of the community patient of public health was novel and highly controversial. I anticipated 25 to 50 years before it would become generally acceptable. I was mistaken in this conservative estimate. Both here and around the world, there has been a remarkably rapid general acceptance of this concept as the definition of public health—clearly stating the distinctive body of knowledge, the distinctive skills and competences that are the components of public health. Of course, not all the implications are as generally accepted. Substantial opposition still remains, but the surprising thing is how widely the terminology and philosophy is being expressed, not as a quotation, but as an original idea arrived at by a wide variety of health workers, both within and outside the public health profession.

I read recently an article in the *Saturday Review of Literature* of June 7, 1958, written by Canon Charles E. Raven, a member of the College of Chaplains in the British Royal household since 1919. In this article he calls for the consideration of the community as an entity, a patient, that needs a doctor, a doctor of the body politic.

> "We ought to be as prepared to look at the corporate madnesses and diseases of our time as searchingly and with as deep a sense of responsibility as we do the individual defects. I do not think we can cure the major evils of modern collective life merely by treating individual members privately and separately because I do not believe that the evils of our corporate life today are caused or can be cured by individual action." . . . "I should like to see certain departments . . . equipped to study the diseases of corporate life. I believe there is room here for the application of precisely the same skills in diagnosis and treatment . . . which the medical man does."

The good Canon apparently does not know about public health, at least this concept of public health, but he, like so many others around the world, is recognizing the need for and clearly demanding a distinctive profession that will develop a science for diagnosing and treating community health needs.

Now, we shall either have to meet this challenge or see others take it over. There are social planners and other groups who are already moving in this direction, and will be only too glad to tell us in public health what to do.

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[1]Presented at the ninth annual meeting of the Ontario Public Health Association, September 29, 1958, Toronto, Ont.

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PUBLIC HEALTH IS LOSING GROUND

There are signs that public health is getting into disrepute. Departments of agriculture are taking over some of our functions in the milk and food areas. Departments of labour are taking over some of our functions in industrial hygiene. Educational systems are taking over school health in some places. New bodies and commissions are being formed without even public health representation to deal with matters of stream pollution, air pollution, hospital construction, medical care administration, chronic disease control, etc., and even voluntary agencies are being thrown into the gap. Our budgets and salaries have increased but not in proportion to the other agencies and individuals. The complete disillusionment and dismay of health officers in Great Britain when hospitals were taken out of public health functions a few years ago is a similar case.

There are two ways to look at these trends. The *first*, and most commonly and naturally, is that of grave concern. If our concept of public health is based upon a series of functions which have traditionally been considered and assigned to public health, then grave concern should be felt. We can ask ourselves why. We may say this is just power politics, other grasping agencies and individuals are pushing us, experienced and tried workers, out of the picture for their own questionable gains. I am reminded of the old family doctor of fifty years ago. He was certainly a devoted, selfless, hard-working soul who found himself losing out in modern day medical practice, and gradually losing the confidence of his patients and then losing his patients and practice. The public was getting wise to new knowledge and demanding scientific practice, while the "old doc" was quite satisfied with what he was doing and the way he was doing it. It was pathetic. He never understood, and attributed it all to "grasping young bucks" and "ungrateful people" who did not appreciate the value of experience. The facts were that he was still "pill peddling" in an era of clinical science. Communities are like individual patients. Communities react more slowly than individuals, but they react just as inevitably. In too many instances we in public health are losing the confidence of our community patient because we are still "program peddling" and practising traditional public health in an era of scientific public health. The transition is slow, but it is inexorable. Communities, like individuals, are learning to want a scientific diagnosis before treatment is started and then they want proof that the treatment, the program followed, is producing the results expected or claimed and is worth the cost. What *proof* have we, or have we given to the patient, that our restaurant inspection is necessary or is accomplishing the results expected or that there is not a better, cheaper way? What I am trying to say is that if we are to keep the confidence of our patient, the community, we are going to have to change with the times and practise more scientific public health. What proof have we that public health nursing as presently practised is a sound prescription and worth the price it costs the community? What proof have we that clinics, child guidance clinics, for example, are changing the amount of mental illness or delinquency in the community? The public wants something more than the convictions and sincerity of "do gooders". They want scientific diagnosis and treatment of the health ills and needs of society.

There is a *second* way to look at these trends, these losses of function, that confront us. *If our concept of public health is based upon the new and coming acceptance that public health is the scientific diagnosis and treatment of communities, we can only welcome with open arms and complete satisfaction the assumption of these duties by other agencies and individuals.* The sign of success is the taking over by others of functions which we once had to carry out because no one else was doing them. Our functions of inspection and food control, immunization, clinics, etc., have consumed so much of our time and effort that we have not had time to practise scientific public health, the scientific diagnosis of community needs, evaluation of the effectiveness of control programs. Instead of crying over spilt milk the public health profession of Great Britain should thank God they are now free of hospital administration detail and free to practise public health—and the same goes for our environmental health division and others. We should rejoice that private practice of medicine is taking over venereal disease control, routine immunization and maternal and child health activities. Perhaps we will have time now to regain the confidence of our community patient, through our distinctive competence in determining the extent of community health needs and the best way to meet these needs. As we regain their confidence, perhaps they will want us to administer the prescribed treatment. But this is not the goal. Our responsibility is only to see that the services needed are available and used. We do not have to administer water treatment plants, but we are responsible that the product, pure water, is adequate and safe.

As we look to the future, let us remember the past. The glamour of clinical science with its new magic drugs and refined diagnostic tools for the highly scientific diagnosis and treatment of individuals has blinded us to the obvious. Early diagnosis and treatment of disease has never controlled any disease. The individual approach which is consuming 90 per cent of time, money and effort in health science is wonderful for the individual who is or may be stricken with disease, but the advances in human welfare, in control and eradication of disease after disease have not been accomplished or even seriously affected by all this individual activity. Take malaria, cholera, plague, hookworm, typhoid, typhus, smallpox, diphtheria, tuberculosis. The community approach, not the individual approach, is clearly responsible for successful control through the control of the environment and modification of the reaction to the environment. The major health problems of today and tomorrow are the chronic diseases, accidents and mental disease. It is wishful thinking, completely contrary to experience, to hope or expect control in any of these fields by the individual approach, early diagnosis and treatment, magic drugs, tranquilizers, etc. The promise of the future lies in the public health or community approach, scientific research and practice in public health.

Take, for example, one of our major health problems today. *Mental disease* perhaps leads the list. Despite all efforts, funds, and activity in improved mental hospitals and psychiatric care, despite child guidance clinics, parent guidance and outpatient services, the rate of mental illness in communities is steadily increasing. Our approach to date has been patient-centered, early diagnosis and treatment of individuals, magic drugs and cures, from tranquilizers to shock treatment. Much good has been done for individuals, but

communities are having more mental illness. We must find ways to change the environment producing the disease and to modify the reaction to the disease. Research is needed, but it does not take much imagination to think of ways that might change the environment. Our child labour laws have changed the environment, though perhaps in the wrong direction. Work—hard, physical work—is one of the best mental and emotional stabilizers. By law, we have removed labour from the child's experience. Perhaps we need to provide for the child experience in the dignity of labour, work rather than recreation. Too many young people have been raised in an atmosphere where work was only something to be avoided. Such a hypothesis can be tested scientifically and the results might change the whole trend of increasing and increased mental illness. At least, this is a reasonable hope while there is no reason to expect or hope for any change or control through all our present mental health activities.

We might modify the reactions to the environment through immunization. We have over-protected our children. We have avoided exposure to conflict and trauma, mental and emotional. Through such permissive programs as "progressive education" we have built up a susceptible population—individuals who sooner or later are going to be exposed to the conflicts and traumas of life. Without experience they break down just as they would to measles, diphtheria, polio or smallpox, if they had no experience or immunity to these diseases. Controlled exposure to mental and emotional strains is not impossible. In World War II we are told that the rate of battle psychosis was reduced several hundred per cent by putting troops under live fire before sending them into battle. Any controlled exposure is dangerous, but it could be explored and researched, and should be before it is advocated and applied. But the idea holds hope for real control of mental illness.

Take another example, *dental caries*, one of the most common chronic diseases. All our efforts at early diagnosis and treatment of dental caries such as pre-school and school examinations, bite-wing X-rays, regular check-ups, correction services, and nutritional education have not affected the rate of dental caries in communities. It has continued to rise steadily. But we now have a tool to change the environment by fluoridation of the water supply. We know where this is done and only where this is done by nature or intent, the rate of dental caries in a community is reduced 60%.

The major health needs and problems of communities are totally different today from those of 50 years ago. Those of today are geriatrics, mental health, chronic diseases and accidents. We cannot hope to control these problems of health by the same procedures and methods we used in control of communicable disease when this was the chief health problem of communities. However, the principles underlying control and eradication are the same. We have not been able in the past nor can we hope in the future to eradicate or control disease in communities by the individual approach—early diagnosis and treatment. We can control and eradicate disease and illness in communities only as we discover ways to change the environment and to modify the reaction to the environment.

We in public health have the stupendous opportunity and responsibility of fulfilling the hope of mankind for a more healthful and abundant life, free from disease. Public health is the promise of the future.

Changing Views on Tuberculosis as a National and International Problem[1]

G. J. WHERRETT,[2] M.D., M.R.C.P., F.R.C.P.

THREE years ago almost to the day, I outlined some ideas on tuberculosis trends based on a historical summary of information as to deaths and cases of tuberculosis in Canada. While we were then aware of the far-reaching changes that were occurring, we are more so today. Tuberculosis is one of the diseases where these changes are taking place so rapidly at the present time that familiar patterns of handling the problem seem to be crumbling. New problems arise before the old ones are solved. That there is a wide divergence of views as to what is taking place, judged by the opinions expressed, is evident not only in the lay press, but also in medical reports which appear in international publications. It is difficult to keep up with such ideas and to be able to decide what are little more than opinions and what are proven facts.

There are great differences in the problems faced in different countries and consequently a great difference in the measures taken to meet them. The clinical approach, which has been traditional in the western countries and which has proved so successful, particularly since the antibiotic drugs have been in use, may not be the best approach in the Middle and Far East and in Africa. There, wider use of vaccination accompanied by a program of out-patient care with supervision of drug regimens would appear to be a better way of getting results in a short time. A program of hospitalization and isolation, such as we have in this country, would take years to develop. There is not the money for buildings and equipment, nor is there personnel to man sanatoria.

The institutions they have are doing excellent work but as they cannot possibly think in terms of isolation and sanatorium care for tens of thousands of cases, they naturally are very glad to find there are now some who feel that these are unnecessary and even inadvisable.

In this country treatment practices have changed very little. While in some cases the stay in sanatorium is shorter than in the days before chemotherapy, in others it is actually longer. Minimal cases are certainly being discharged sooner than they were prior to 1947, when we began using the drugs. However, a great many patients who at that time would have died after a short stay in hospital are remaining longer and getting better. The net result is that the average length of treatment now is two months longer than it was ten years ago, though down from 1954, the year in which the average was longest. I would like to point out that these are "average" figures, and that they may

[1]Presented at annual meeting, Medical Advisory Section, Ontario Tuberculosis Association, Toronto, October 30, 1958.

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not apply in specific regions. There is wide variation in Canada between institutions and provinces. I imagine there are parallel differences in the United States, but on the whole there seems to have been a considerable reduction. The same can be said of England, Wales and the Scandinavian countries. Holland, on the other hand, has maintained an average hospital stay of sixteen months.

As I suggested earlier, there is a growing tendency to question the necessity of bed rest. I do not think that anyone would seriously doubt the value of the type of care available in sanatorium, or would suggest that the same standard of care could be given at home without a serious strain on the family, but there are some who think that the advantages in the medical sphere are partially offset by taking the patient from the home environment. They argue that there would be less problem of adjustment later if the patient had never been away from home. This is another area where detached views are not acceptable. We cannot expect uniformity when each person strains his opinions through the sieve of his experience and the situation with which he deals.

There is no unanimity of opinion concerning drugs either. Some are convinced that three drugs, Streptomycin, PAS and INH should be used in combination while others contend that INH is all that matters. Some of the latter suggest that resistance is of little concern, particularly with INH, and even suggest that if the germs are resistant, they are likely to be avirulent. One published statement suggests that the more resistant the organisms, the less virulent. These conflicting points of view have been published and expounded in various countries.

Where do we stand in these matters? I believe we should set out to find a good many answers to these current problems ourselves, rather than depend on reports from other countries. While the Veterans Administration and the British Medical Research Council reports have provided some excellent information, we have been too dependent on them. This dependence on other countries to provide answers can hold back our own program and dull the interest in clinical and epidemiological research so necessary to maintain a keen, active service.

Too often we are prone to accept as gospel the latest pronouncement made in either the United States or United Kingdom, without seeking to find the answer within our own borders. While we may be lacking in facilities for fundamental research, which can be carried out only in larger research institutes and laboratories of drug firms, we are advantageously placed for assessment of many phases—epidemiology, case finding, vaccination and treatment—though at present we produce only the barest information. The following are a few examples.

The Tuberculin Test:

After all our years of experience with Von Pirquet, Mantoux, Patch, BCG and Heaf Tests, we have very few convictions based on actual experiments. It is true that some excellent studies have been made and Dr. Wicks summarized these in a masterly way over a year ago, but I think I am right in saying that he was handicapped because of the lack of more careful studies.

However, credit should be given for some that have been made. I am thinking particularly of Prince Edward Island and Saskatchewan and of the excellent tuberculin studies that have been going on there. It is encouraging that some of the other provinces have initiated similar studies. Ontario has undertaken some this year which look very promising indeed.

The Use of BCG:

Canada has as much experience in the use of BCG as any other country in the world and yet, except for Dr. Baudouin's original study on contacts in Montreal, and Dr. Ferguson's excellent studies on Indian babies and hospital nurses, both done more than twenty years ago, we have little data. We have no current studies to back up our first favourable impressions. Dr. Frappier has a number of studies under way, but not enough reports for the field are available yet.

One would wish that more careful studies, such as the Medical Research Council trials in Britain, might have been conducted here. Their findings would indicate that there is no need to change our basic program regarding use of BCG at the present time. We still believe it should be used for unavoidably exposed persons, contacts and high incidence areas and groups. Some of us see great merit in the BCG program of the United Kingdom.

Case Finding:

Case finding is one of the fields in which we need some careful analysis. Because mass chest X-ray surveys opened up new frontiers in early diagnosis we have tended to go on with them uncritically. The time seems to have arrived to assess their productivity. Some directors of tuberculosis control have already decided that tuberculin testing surveys should precede chest X-ray survey. Such a program has already been undertaken in Saskatchewan. They are keeping careful records which already indicate pretty clearly where X-ray examination should be concentrated. Only 2.7 of the children aged fourteen and under were tuberculin positive. In the age group 40 to 44 the percentage of positives was 33.05. It is fairly obvious where chest X-ray search should be concentrated and where the tuberculin test, with X-ray of positives, is really the more useful tool.

We have not given enough encouragement to active, energetic, epidemiological and case-finding services. These have been the "Cinderella" of tuberculosis control programs in this country. These services have been unattractive—salaries have been inadequate or the work may entail some travelling—and physicians have preferred the easier life in the clinical atmosphere of the sanatorium or hospital. Part-time clinic officers have tended to become more and more engrossed in their own practice and have not produced research studies to any extent. These services are not attracting young, active men at the present time.

Treatment:

Prior to the antibiotic era, treatment was in the sanatorium, if possible. Since the advent of chemotherapy the philosophy of treatment has been that

if treatment could be successful with rest and collapse therapy only, then it would be doubly so with chemotherapy. For a few years after the advent of chemotherapy length of treatment increased because patients whose prognosis would formerly have been poor recovered after a longer term of treatment. Now, as the percentage of minimal cases among admissions rises, there is a natural shortening of treatment time in sanatorium.

So far, no serious attempts have been made to shorten further the stay in sanatorium by permitting patients with negative sputum to take part of their treatment at home under supervision. Perhaps many of us are prejudiced by what happened in individual cases where, for some reason, a patient had been allowed to return home, promising to take drugs faithfully and observe rest hours. The promises were broken with adverse results. Despite such experiences there is a growing feeling in some quarters that it is time for re-assessment. Studies of ambulant treatment, some of it domiciliary, have been undertaken. In some instances sputum negative patients continue at work.

Such studies are not easily conducted because it is hard to set up adequate controls, and without them it is impossible to make a proper appraisal. However, one thing is uniform, and that is the standards by which we judge effectiveness of treatment—does it reduce failures, delay drug resistance, decrease relapses and readmissions?

Lest you underestimate the seriousness with which some outstanding men in the tuberculosis field are viewing this matter let me quote what Dr. W. B. Tucker says in the September issue of the *American Review of Tuberculosis*. The paper is primarily on where and when the various drugs should be used but he does not ignore the factor of bed rest and this is what he says: "Physical rest is beneficial to the tuberculous patient, but its role is small in relation to that of drugs and only a little restriction of activity may be required." He suggests that strict bed rest may even have some disadvantages. He goes on to say that rest was the most reliable form of treatment prior to drugs, but that strict bed rest exacts a price. Before the days of antibiotics, the results were worth the price, but the price tag was there. By prescribing strict rest, we deliberately "unconditioned" our patients, requiring a long reconditioning process at a later date, and of necessity, we effected profound changes in the psyche of our patients. Dr. Tucker submits that this "unconditioning" in the patient was no small price to pay, and that it must be demonstrated that it is worthwhile if we are to continue to impose it. He states that he knows of no such demonstration and that, on the contrary, there is considerable evidence that little restriction of physical activity is required, and that retaining some physical activity may actually be beneficial.

He goes on to say that this does not mean that most people with active tuberculosis should not be treated in sanatorium. He thinks that the evidence in favour of a period in hospital is quite clear. What he advocates is that, wherever possible, there be less restriction of physical activity. "Unconditioning" he feels, is in direct proportion to the degree of inactivity maintained, and the more "unconditioned" the patient becomes the more "reconditioning" is going to be needed. In his view, rehabilitation of the patient is made more difficult by bed rest, so bed rest should be reduced as much as is compatible with progress.

On the other hand, we are receiving warnings against unwarranted use of ambulant and domiciliary treatment. One such warning comes from Dr. Shane in the September issue of the *Journal of the Canadian Medical Association*, who writes: "Patients are being indiscriminately treated on an ambulatory or domiciliary basis and are being left with irreversible disease with sporadic discharge of tubercle bacilli into their environments and into previously undiseased segments of their own lungs, thus resulting in the creating of new cases of tuberculosis in other individuals and reactivation of disease in themselves." Such warnings are timely when there is a tendency to go too far in the matter of home treatment.

Most of the western countries have made great progress in the control of tuberculosis. They have been fortunate in a high standard of living. They have had the resources to conduct a very efficient clinical approach to the problem, using expensive facilities for case finding, and have depended on prolonged institutional treatment that has taken years to develop and is costly to maintain. The underveloped countries call for a program which will give quicker results by a public health approach, with inexpensive methods of case finding, vaccination and a wide program of chemotherapy and chemoprophylaxis. Much has been learned from the western countries but many questions have not been answered as to how our experience can be applied on a worldwide scale without waiting years to develop the costly facilities for which many countries will wait, and wait in vain to obtain.

Although it was not intended that WHO would have a research program it has become necessary to develop one since many of the answers are not available from the developed countries. In general, the research program, as outlined by WHO, is a broad one. It is hoped that many of the answers will be available from member countries, but many research projects will need to be carried out under field conditions not always optimum. Investigators are hampered by incomplete data. In our own cases, for example, our figures are accurate as to deaths and death rates, but are far from satisfactory with regard to morbidity and prevalence.

While we have a research program, it is small in comparison with our resources. We have dropped into the habit of waiting for developments in the United States, in Britain, and in other European countries—often the delay is not due to lack of resources.

Funds for research are available from two main sources—the National Research Council and the research grants of the Department of National Health and Welfare. Some research projects have been carried out under the tuberculosis grants. A small amount is expended by provincial tuberculosis associations. More would be forthcoming if the need were made clear. The importance of studies should be stressed at the present time, particularly to those provinces where any substantial saving has been effected by reduced treatment costs.

In summary, a continual program of investigation and research in epidemiology, case finding and follow-up will be necessary if we are to maintain our momentum and bring about the final control of tuberculosis.

Program Design and Evaluation in Public Health Nursing[1]

TRENNA G. HUNTER,[2] B.A.Sc.

THE evolution of health departments is probably reflected most in the changing role of the public health nurse. In Vancouver, we believe that health is comprehensive, that it includes emotional as well as social and physical health and that our approach to improving the health of the community is changing as medical science advances. This is the basis of our planning. Less time is spent by the health department on activities which used to be necessary to protect the health of the community as a whole and more on the promotion of "the personal and interpersonal health" of the individual.

Our work is diverse and includes school health and child welfare services, prenatal teaching, communicable disease control, immunization, tuberculosis and venereal disease control (in co-operation with the provincial government departments), preventive dentistry, environmental sanitation and preventive mental health services. Public health nursing cuts across practically every aspect of health department work and it is therefore particularly necessary that those responsible for nursing service plan carefully and in close co-operation with all other divisions of the health department.

Over the years there has been a gradual change in the role of the nurse in our agency and, I am sure, in other agencies too. She is becoming more and more a health counsellor, less and less an instrument for carrying out definite and specific procedures. She is spending more time assessing families, offering reassurance and moral support to members of the family and teaching the simple facts of growth and development of children to mothers. She has perforce to become more independent and to rely more on her own judgment. As she has to rely more on her own judgment we have to change our style of supervision and rely more on consultation and discussion with her, on sharing planning in committees, on helping nurses to be aware of their personal qualities as assets or liabilities. Less emphasis is put on orders and directions and more on helping the nurse develop her own good judgment.

One area in which I feel we have experience of practical value is in the role of the nursing staff in mental health work. The staff of our mental health division consists of two psychiatrists, three social workers, who act as consultants, and two psychologists—all sharing their time among the eight metropolitan health units. We could say, however, that the staff includes 114 public

[1]Presented at the forty-sixth annual meeting of the Canadian Public Health Association, May 20–22, 1958, Vancouver, B.C.

[2]Director of Public Health Nursing, Metropolitan Health Committee, City Hall, Vancouver 10, B.C.

health nurses who make up the field staff and 12 medical officers. Our mental health work has been compared with an enzyme system which permeates the work of all divisions and through them the lives of the people in the community. The public health nurse is ideally situated to be a part of this enzyme system as her work carries her to schools, clinics, child health centers and homes. Teaching through individual contacts seems to remain the best way to impart ideas.

Our nurses come to us equipped with either a degree or a diploma in public health nursing but not all come with a feeling of confidence that they can "do mental health". In fact many, when they first come to our agency, express an uneasiness when asked to plunge headlong into "mental hygiene". To help these nurses overcome this feeling of inadequacy we include mental health in our staff orientation program. Most of the nursing appointments are made in the summer and our mental health orientation program begins in September with a demonstration of a "mental health conference".

Orientation may be a bewildering experience to many nurses. We do not want them to be lost in a maze of detail so we start their orientation with general talks in which we try to give them some understanding of the broad purposes of our work and a feeling that we want them to be our partners in an important enterprise. We want them to begin with excitement and enthusiasm about the goals, not in a state of jitters about the hazards presented by the intermediate steps. Through these first difficult weeks they are helped by their nursing supervisor, a key person in the agency.

The mental health clinic is a focal point in the work of the agency. As nurses and doctors go about in schools, clinics, homes and child health centers they find children to refer to the clinic for diagnosis and consultation. The nurse, the doctor, the teacher, the principal of the school, the members of the clinic team, social workers from other agencies, sometimes the private physician, all sit down together to discuss the findings and decide on the action to be taken. The clinic also has important educational value, particularly for the new nurse as it provides endless learning opportunities. In the demonstration she sees the role the experienced nurse plays in preparing a case for presentation to the mental health clinic, she sits in on the conference that follows and she learns which members of the team will be concerned with the follow-up. She is able to carry forward what she learns from the individual case to other situations.

Attendance at a mental health clinic will have little meaning for the new nurse unless she very soon becomes involved in preparing a case of her own and this she does with the help of her supervisor. But she needs much more than the experience of "writing a history" to help her to see herself as an effective worker in health counselling and so planned discussion groups conducted by the social workers are held in each health unit. At this time the newcomers are helped with their techniques of interviewing, their interpretation of behaviour, their own feelings about mental health, their relationships with others. Sometimes their relationships with the principal and teachers in their schools are the most troubling of all—how to adapt to divided authority—while at school the nurse must take direction from the principal but she is also

responsible to the nursing supervisor. Sometimes the problem is her own feeling about the hopelessness of a situation where there seems to be no resource to help or where the agency that should be doing something seems to be falling down on the job.

These and other similar topics represent fields in which we feel the social worker can give real assistance. As discussions are carried on over a period of months nurses are helped to understand their role in mental health much better. They see that mental health is not a branch to be grafted on to public health but that it is something that is woven into the very fabric of our work. I use the terms "mental hygiene", "health counselling", "health education" almost interchangeably. We are so convinced that mental hygiene must be considered as a basic element in our program that we could more properly think of it as the dye in the fabric rather than the warp or woof.

In mental hygiene there is a body of principles and practices that can be taught to parents and teachers and to others who have to do with the rearing of children. We believe that public health nurses can and should teach these principles. Just as nurses have taken the principles of nutrition and immunization into homes and schools, so can they take the principles of mental hygiene. There are probably not many mothers in our community who do not know that vitamins are a necessary part of the baby's daily diet or that he should be immunized but there are a good many rejecting and over-anxious mothers who do not realize what effect these attitudes have on their children. These mothers could be taught to modify their methods of handling their children and could learn about the effect of parental attitudes on the behaviour of children. Who is going to teach them? We think our plan of orientation helps nurses to see themselves in this teaching role.

Dr. J. F. McCreary has described the five basic needs of children rather simply as the need for: (1) medical supervision, (2) immunization, (3) supervision of feeding, (4) health counselling and (5) care when ill. The private physician shares with the health department the responsibility for meeting these needs, but not all children receive from their private doctor the most time-consuming service of the five, that of health counselling. This would seem to be more and more a function of the public health nurse operating in the setting of a child health center.

Our child health centers are well established in Metropolitan Vancouver. There is no eligibility barrier, mothers from all walks of life use these centers very freely and over 60% of all babies born in the area attend. Mothers come by appointment and each nurse has her own "case load" in the center, the mother seeing the same nurse each time she attends. Although immunization and weighing are still the most obvious of the services offered at the center, it becomes more and more evident through the questions asked by mothers that what they are really seeking is reassurance. This desire is not always consciously expressed so it becomes increasingly important that nurses be observant enough to be aware of this unexpressed need and that they develop skills in giving reassurance and appropriate advice even when they are not openly sought.

When psychologists were added to our staff, we thought we might try to

use them in our child health centers to improve the mental hygiene and to see whether methods could be devised to broaden the nurses' interest in anticipatory guidance. We tried different ways of using the psychologist including a direct referral from the nurse after her interview with a mother, having the psychologist "sit in" during the mother-nurse interview, having the mother ask for a conference with the psychologist after having been made aware of its availability through reading a leaflet describing the services that a psychologist had to offer. Having the doctor make the referral and having the psychologist see the preschool age children were other methods we tried.

After studying all these approaches the staff agreed that the best use of the time of the limited number of "specialists" in the mental health division was still to be made by using them as consultants to the nurses and in the educational program planned for the nursing staff.

Evidence that our educational methods are paying off is found when we compare the kind of interviewing that goes on in our centers now with that done 10 or 15 years ago. It is much less directive and we are beginning to feel that nurses are developing into "sympathetic counsellors, tolerant of maternal anxieties and able to help a wavering mother mobilize the forces of her maternal love for her child".[1] This helpfulness is illustrated by the request of a grandmother whose daughter was attending a center with her first child. On learning of the birth of her son's child the grandmother immediately called the health office to find which center she should advise her daughter-in-law to attend to be sure she had the same nurse her daughter had.

School Study

Another query we had in our minds in regard to our design of nursing program was in the area of school health service. We knew of course what was "laid on" as the nurses' program in school but we wondered why children sought out or were sent to a health service room in a school and how the nurse was dealing with the situations that arose in the course of a morning's work. We set up a simple "log" type of recording for each nurse in three selected schools and from the data obtained we learned that there was no consistency about the manner in which children were referred. In the schools we were studying, nurses were in attendance three mornings a week. It was found that on these mornings some teachers referred almost no children, others referred fairly large numbers. By and large the nurses felt that the cases referred were legitimate ones but the study showed that relatively few were referred for other than a physical reason. Quite often the ostensible physical complaint concealed only thinly an emotional problem. Is there a general lack of awareness on the part of teachers that emotional problems are a cause and a part of poor health? Is there a lack of recognition that a nurse has a part to play in mental health work?

We began to wonder whether in a nursing program devoting well over half its time to school service we were really being well understood or well used by teachers and principals. If the effective use of a service depends upon

[1](Anticipatory Guidance in Child Health Centres—C. H. Gundry, B. E. Hall and T. G. Hunter, Public Health Nursing, July, 1952.)

the understanding of the teacher about the place of the health service, the administrative ability of the principal, and the relationship of the nurse to both as well as to the children, then possibly we need to look more closely at the way school health services are being interpreted to schools, to educational administrators, and to parents. We need to know how the public sees us.

Dr. Paul Lemkau[1] says that public health nurses seem to him to be very modest, even to the point of being self depreciatory. Possibly it is true that we take too much for granted and feel that teachers will automatically know what we are prepared to do in a health service in school. If so, then we must design nursing programs so that our function is clearly understood.

Techniques in planning

To do the type of nursing program that we have described here—giving nurses more responsibility for mental health work; helping them to become more proficient in taking mental health principles into homes and schools; seeking for a longer and more thorough orientation in their work, encouraging them to spend time interpreting their job in schools; we are constantly faced with lack of time—where do we find time for these activities which take so much longer than "routines"? We have developed in our agency some definite aids to help us in planning our service so that "time" becomes less of a bogey. One of these is our case load analysis.

Twice a year, the nursing supervisor completes a study of the case load of each nurse in her unit. From our analysis of these figures adjustments are made to balance case loads within the unit. Assessment of the need for new staff is also based at least partly on these figures. To use figures effectively we must be very familiar with the area served and the type of program required in that area—the case load of a nurse in a predominantly non-English speaking area must be smaller than that in a more average Canadian type of district.

I do not know of any guide that will tell us what constitutes a case load for a public health nurse in a generalized service but the case work analysis has helped us to make reasonable assignments for our program.

Time Study

Another technique we use is a "time analysis". We keep an accurate account of nursing time for only a two week period out of each year.

The information gathered serves as evidence of where nursing time is being used and helps in administrative planning for changes. For example, when we see that nurses are spending more than 20% of their time on clerical work we have convincing evidence that more clerical workers should be employed to save nursing time for more professional duties. When we see that only 11% of a nurse's time is available for home visiting, we ask ourselves if it would not be more productive to spend less than the 57% of her time in school and more than the 11% in home visiting. Statistics such as these have proven most helpful to the medical health officers in discussing budgets with employing bodies and in joint planning with all departments.

[1]Nursing Outlook, March 1958.

SUMMARY

In designing our nursing program to meet changing needs we have always challenged nurses to take more and more interest in the mental health aspects of their jobs. We have helped them to do a better job by assuming that they are more ready for the kind of performance we expect than they often are—our reach has always been a little higher than our grasp. Evidence that there has been over the years an increasing awareness and sureness in the nurses' work is seen when we glance over old files and compare the rather sketchy histories and sparse follow-up work of ten years ago with the work done today. Futher evidence that we are doing more preventive work is found in the statistics of the mental health division. When we see more children being brought to clinic at a younger age, more children coming because of their need rather than because they are troubling someone else, more children being referred by their parents and by their doctor than by school staff, more evidence that parents are seeking advice and expressing real concern for their children's problems, then we feel pardonably proud of what we have achieved.

The fact that our staff nurses are always trying to improve their performance, are constantly making suggestions to improve procedures and are always ready to try new ways of doing things is evidence of a lively, intelligent interest in helping design the nursing program of this agency. Their interest is put to use in committees and study groups and everyone has a hand in preparing the procedure manuals, without which we could barely function, our conference guides and other aids to a good nursing program.

The question has been asked in the literature as to whether with all these measures we are really preventing emotional sickness or are we just wishfully hoping that these measures will do some good. To paraphrase G. B. Shaw "If all the psychiatrists were laid end to end they wouldn't reach a conclusion!"

I do not suppose that, without a good deal of research, we shall know but we do know that children have a right to be brought up within the limitations of what they can accomplish with the endowment and intelligence they possess. We hope we are helping some children, at any rate, to achieve that right, and so to develop personalities more able to stand the unknown stresses of an unforeseeable future.

The leadership received from the Senior Medical Officer and the Director of the Mental Health Division who believe that mental health is public health is outstanding. They believe that the public health nurse is the worker who can best do the preventive work that must be done if we are ever to reach all in the community who need this service.

Not everyone sees this as the role of the nurse, however, not even some of the nurses themselves. Part of the task is to change their own conception of their job. No one can sell a product unless he is convinced himself of its value. No nurse can interpret what we are trying to accomplish in mental health unless she is convinced herself of the worthwhileness of the effort. Time, patience, good supervision and an understanding administration are all needed to design, evaluate and carry out this type of public health nursing program.

Health Education in Hospitals[1]

MICHAEL E. PALKO,[2] B.A., M.P.H.

THE techniques of health education in hospitals differ very little from other types of education. In content, health education in hospitals represents all existing educational activities which could be effectively used for teaching purposes. Hospital health education involves the entire work of a hospital and encompasses as many different facets of education as there are jobs.

The goal of hospital health education is to attain desirable change in patient's knowledge, to achieve changes in his attitudes, and to change his behaviour patterns. The result may be that his present ailment either improves or disappears and he may learn how to prevent recurrences and complications in the future. The same principles apply to the hospital worker himself. The hospital worker, in order to be able to render the best in patient care must be properly informed, his attitudes must be such that he will identify himself with the hospital service, and his behaviour must be an example to other workers and the patients. It follows from this that hospital education is a two-way process, which if properly carried out by the hospital administrator would result in improved patient care.

We must not overlook other related groups which constitute a potential for health education. These groups are women's auxiliaries, hospital board members or trustees, and the community at large. These are the groups on which hospitals should rely heavily in order to keep the community-hospital relationship in harmony. If the relationship with these groups is not fully developed, or does not exist, the hospital has not utilized to the full extent its potential in a community health program. The community groups in themselves are not sufficient to develop a successful health education program in a hospital.

A person in charge of such an educational program must resort to the "change methods" which are widely used in the field of adult education. The three main aspects of these are: person-to-person contact, community organization and mass media. Of the three, person-to-person contact is believed to be the most effective although it is time-consuming. The community organization, a process of bringing people together to work on problems of immediate and long-range concern, is considered second best. Mass media is the method most likely used but it is least effective in modifying opinions, especially in situations where changes in attitudes and behaviour are desired. The mass media tend to narcotize rather than to energize the average reader or listener. The program planner for health education in a hospital must use these three methods with discretion and the recommended procedure is to use them together.

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[1]Presented at the joint meeting of the Canadian Public Health Association and the Western Branch of American Public Health Association held in Vancouver, B.C., May 20–22, 1958.

[2]Health Educator, Metropolitan Health Committee, 456 West Broadway, Vancouver, B.C.

Looking back a few years, even a casual observer notices the change taking place in the role of the community hospital and the added emphasis on prevention of disease and the promotion of health. This trend is attributed to the untiring efforts of public health workers. It can be considered a result of incidental teaching in our hospitals. These programs vary from place to place; in some hospitals there is a continuous health education program under the direction of a professional person; in others, only some incidental teaching is done. Credit for this change should also be given to the hospital administrators, medical and lay, who are helping to introduce this new concept into our hospitals. Modern community hospitals today are no longer confining themselves to sickness and accident as in the past, but are becoming community health centers with services extending beyond the cure of disease. This trend is still developing and only time will show the effectiveness of health education in terms of improved patient care and good community-hospital relationships.

There is no doubt that in the encouragement and initiation of health education programs in hospitals, there is a definite place for a trained health educator. He must become familiar with hospital organization, routines, and procedures but, it must be remembered that programs of this kind must have the hospital administrator's approval. He might delegate this responsibility to a health educator or other person interested in the program. The relationship of the hospital administrator and the person in charge of the educational program is important in order that there may be a harmonious merging of the educational and service programs.

Hospital health education is a dynamic field and "blueprints" for such a program are not available. Any health education program within a hospital should be planned according to existing needs. It should be concerned with helping patients to acquire needed information, developing desirable attitudes, and changing their behaviour so they will get well and keep well. At other times this program might deal with instructions to dietary workers and housekeeping staff, seminars for physicians, in-service education for the general staff, institutes for hospital board members, meetings with women's auxiliaries, and liaison with the voluntary health agencies interested in the welfare of the patient.

As can be seen, the scope and the methods for health education programs in hospitals are wide, and hospitals can benefit most from a planned program. In 1956, with this need in mind, a health educator was employed by the Saskatchewan Department of Public Health to plan educational programs in the 163 hospitals in the province. While attached to the Health Education Division, he was assigned to the Medical and Hospital Services Branch which is comprised of six divisions. Two of these divisions, the Sakatchewan Hospital Services Plan and the Division of Hospital Administration and Standards are directly involved in paying for general hospital care for all persons in the province. The initial work with these divisions was concentrated in three areas of endeavour:

> Working with members of divisional staff to extend and intensify their activities in the preventive aspects of disease in the field of curative medicine.

Developing favourable hospital relationships, capitalizing on existing needs and interests.

Developing favourable attitudes toward the Branch and its program by disseminating information about services available, and creating popular and special support for health education programs in hospitals.

In Saskatchewan, as early as 1957, the health educator conducted a survey of health education facilities and resources in 16 hospitals. After consultation with the Health Education Division, Medical and Hospital Services Branch and several leading hospital administrators a program was launched. It was intended to serve all hospitals in Saskatchewan on a consultation basis. In its second year of operation the program presently provides consultative service to hospital administrators about the initiation of general health education programs, patient education, in-service education, staff training, accident prevention, literature production and distribution, audio-visual aids and community-hospital relations. All hospitals in Saskatchewan are free to request this service to initiate or to develop any of the above programs. The two-year experience showed that initiation of in-service education programs, accident prevention programs, literature and films were among the more frequent requests for service. The health educator also works to stimulate interest in the program among such groups as the women's auxiliaries, the Saskatchewan Hospital Association and regional hospital councils.

REFERENCE

A. S. Johnson and C. S. Johnson: *The Hospital's Role in Health Education*, WHO, Expert Committee on Organization of Medical Care, June 1956.

Résumé

L'auteur expose la conception, les possibilités, les méthodes et l'efficacité des programmes d'éducation sanitaire dans les hôpitaux, en autant qu'ils affectent le malade, l'administrateur et l'employé d'hôpital, ainsi que la collectivité. Il regarde l'hôpital comme l'endroit logique pour planter les aspects préventifs de la santé publique dans le champ de la médecine curative. Il montre l'esprit et les principes de l'éducation sanitaire en milieu hospitalier sur le plan régional ou provincial. Il décrit brièvement le programme d'éducation mis en œuvre dans les hôpitaux de la Saskatchewan depuis deux ans.

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LAST CALL FOR MONTREAL!

June 1, 2, 3, 1959—Sheraton-Mt. Royal Hotel

MONTREAL has been the hostess city to the Canadian Public Health Association on four occasions. In December 1911 the first annual meeting was held in Montreal. At this inaugural meeting the founders of the Association expressed their conviction of the national importance of public health by seeking the active participation of the prime minister of Canada, the provincial premiers, and the provincial executive health officers. The establishing of the Association received the support of prominent citizens including Sir James Grant who expressed his personal interest by serving as honorary president. H.R.H. the Duke of Connaught, the Governor-General, was the patron of the Association and addressed the inaugural session. In his speech he stressed the fundamental importance of public health in the life of the Dominion.

A most cordial invitation to the meeting and to the Province of Quebec has been extended by the Honourable Dr. Arthur Leclerc, Minister of Health of the Province and honorary president of the Association. Following the official opening of the meeting on the second day, the Mayor of Montreal is tendering a reception and dance at the Mountain Chalet on Mount Royal. From this peak visitors enjoy a magnificent view of the city and the St. Lawrence River. On the following day, an interesting bus tour has been arranged for the ladies. The trip will take them through the west part of the city and around the beautiful forest of Mount Royal by the new Camilien Houde Road. The tour will then cross the Jacques-Cartier Bridge to St. Helen's Island, once the summer residence of the Governors of Canada. The trip will end with tea at the famous "Hélène de Champlain" restaurant on the island. On the last day of the meeting Dr. Armand Frappier has invited the delegates to visit the new laboratories of the Institute of Microbiology of the University of Montreal and arrangements have been made for a special bus trip to Laval-des-Rapides.

The coming Montreal meeting fulfills the vision of the Association as a national body linking together all who are professionally engaged in providing health services to the citizens of Canada. All the provinces and the federal

government recognize the Association as a valuable part of their public health organizations. Throughout the years the Association has functioned as a voluntary agency in the field of public health and in that fact lies much of its strength and success.

This reference to the forthcoming Jubilee meeting is to remind us that we have an obligation as well as a privilege to be present in Montreal at this very special occasion. The program is outstanding and no effort has been spared to gather from the past lessons which will be profitable in visualizing the problems of today and tomorrow.

Your place is at the Montreal meeting to join in marking the Association's entrance into its second fifty years!

THE PROMISE OF PUBLIC HEALTH

IN this issue and in an earlier issue of this year the Journal has been privileged to publish two stimulating articles in the field of public health administration. In the January issue Dr. Wilson G. Smillie, for many years professor of public health in Cornell Medical College, spoke from a rich experience as administrator of both health and welfare services. He asked the pertinent question "What is our concept of public health?" He outlined his concept of the responsibilities of the individual and of the community and the changes which are occurring today in public health medicine. He emphasized the necessity of considering public health as a gradually advancing social philosophy, of knowing thoroughly the scope of each job and of making an accurate appraisal of the future.

Dr. Edward G. McGavran, Dean of the School of Public Health, University of North Carolina and experienced administrator of health services, in this issue discusses the present position of health administration during this period of rapid change. His title is "The Promise of Public Health". Dr. McGavran is known for his helpful contribution to the defining of public health and the physician's particular contribution in this field. The medical officer of health, Dr. McGavran has said, is the diagnostician of the state of the community's health, bringing to bear on the diagnosis all the skills which he possesses as a competent physician and as a specialist in public health. There is need to present this message, not only to physicians who are health administrators, but to medical students. It is only if a student has an adequate conception of public health that he will make public health his career.

Too often, the medical officer of health is thought of as being occupied with duties that are matters of law and regulation and of routine procedures with little that calls for his medical training. The concept of public health as expressed by Dr. McGavran calls for medical leadership of the highest order. It emphasizes too, the necessity for the best in undergraduate training supplemented by postgraduate training in public health.

A SCHOOL HEALTH SERVICE IN A NEW ONTARIO HEALTH UNIT

J. R. Mayers,[1] M.D., M.B., B.S., D.P.H.

THIS county health unit came into full operation in the last quarter of 1957. There had previously been no serious screening of the county school children for health defects. In this respect the school population represented virgin soil. It seemed appropriate therefore to maintain a non-rigid approach to the various health procedures that make up an effective school health program.

The county is roughly two-thirds rural, and consequently abounds in substandard one or two room schools. There is, however, a strong trend to centralization—either the area central school, or smaller centralized units, some of which came into effect in the 1957–58 school year. Co-operation from the parents was high, perhaps understandably, as the Women's Institutes and the Parent-Teacher Associations had been prominent in the community efforts to promote a health unit.

The school health program for this first year was based on health inspections and special inspections, frequent nurse visits and nurse-teacher liaison and referral. The nursing service included vision testing in grades I, IV and VIII. Health examinations by the medical officer of health, in addition to those carried out by the public health nurses, were offered to school starters in grade I or kindergarten. In the high schools, the medical officer of health made himself available monthly to discuss problems in private with individual students.

Type of Health Examination

I. Pre-physical

(a) Questionnaire was completed by parents before-hand. This was usually of doubtful value unless the parent was present, often it was useless.

(b) Vision testing by public health nurse using illuminated illiterate type Snellen chart. Vision of less than 20/20 was checked three times, over a period of weeks to accustom the child to the procedure, before being accepted.

(c) Height and weight measurement.

(d) Public health nurse's and teacher's opinion regarding any problem they may have noted.

II. Physical Examination

Whenever possible carried out with the parent present and also the class teacher and public health nurse who can make a valuable contribution to a discussion of any problems the child may have.

(a) Urinalysis.

(b) Clinical examination by medical officer of health.

Criteria of Deviation from Normality

Vision—Considered as a deviation from normal if less than 20/30 in both eyes after three separate examinations.

Urine—Positive reaction to albumen or sugar using the 'dip' type test. (Bizarre results were often found, due to contaminants of the container—peanut butter, jam, pepper, etc.)

Teeth—D.M.F. recording was not used; only decayed teeth were recorded. Missing teeth were not recorded nor were those filled, therefore the dental defects have been underestimated.

Tonsils—Variations in size were not regarded as a defect but recorded as plus 1, 2 or 3 (Plus 3 being extreme enlargement, meeting or almost meeting in the mid-line of the naso pharynx). Definite evidence of disease other than enlargement had to be present before recording a defect.

Other defects—Recorded as such, if there was clinical evidence.

Response to and Results of Clinical Examination

In the school year under discussion

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TABLE I—Summary of Defects Found Among Children Who Were Physically Examined

Condition or Defect	Year of Birth		
	1950	1951	1952
Group I. Detectable by Public Health Nurses' Examination			
Vision	19	110	52
Albuminuria	—	8	2
Total	19	118	54
Group II. Detectable by a Dental Examination	19	173	69
Group III. Detectable without seeing the child			
Enuresis	1	3	2
TOTAL	*39*	*194*	*125*
Group IV. Detectable on medical or clinical examination			
Dermatological	—	4	1
Cardiac	2	1	—
Hernia	—	7	4
Pulmonary	—	4	2
Ears & hearing	—	5	6
Orthopaedic	1	7	1
Deviated septum	—	2	1
Enlarged cerv. glands	1	9	1
*Other defects	3	14	6
TOTAL	*7*	*53*	*22*
Total number of children examined	*56*	*488*	*249*

*Defects listed under "others" include mental retardation, speech defect, hare lip and cleft palate, epilepsy, various manifestations of allergy and allergic rhinitis, keloidal scar, faulty posture, congenital genitalial defect, coeliac disease, haemangioma, obesity, undescended or partly descended testes, spina bifida and haemophilia.

there were 1,007 children in kindergarten or Grade I. Some were repeaters. Only children born in 1950, 1951, 1952 have been considered here. 793 were clinically examined (79%). The missing 21% were lost due to transportation difficulties, absences due to various causes but only very rarely to parental objection.

There have always been soul searchings regarding the best way of carrying out medical "screening" of school children. The above figures show that at least 45% of the defects detected during a clinical examination could have been detected without that examination. It would seem that the periodic routine medical examination as practised, for example, in Toronto and the United Kingdom is possibly extremely wasteful in professional manpower and other resources.

Findings

Some aspects of an initial school health service in a new health unit have been outlined.

Co-operation with the general public and the schools has been found to be very good.

Routine medical examination does not seem to be very efficient as it only revealed slightly more health problems than could be found by other means. Its great value lies in the opportunity to discuss health problems with the parent(s) in the presence of the public health nurse and teacher.

For the next school year the general nursing and high school programs are expected to remain much the same. Clinical examination will not be offered to all the children in any particular group as before but only to those whose parents, the teacher or public health nurse think they have a particular health problem. This will be confined to children in kindergarten, grade I, and grade VIII.

A group Audiometry program will be instituted throughout the schools.

News Notes

National

The following candidates were successful in the February examinations and have been granted the Certificate in Sanitary Inspection (Canada): W. A. Dennis, Vancouver, B.C.; Leo Bamford Kaulbach, Bridgetown, N.S.; Roy Simeon Keeping, St. John's, Newfoundland; William James Phelan, Halifax, N.S.; Guy Pittman, Spryfield, N.S.; Robert Matthew Ruelokke, St. John's, Newfoundland.

Federal

Léo Marion, Ph.D., F.R.S.C., director of the division of pure chemistry, National Research Council, was recently awarded the 1959 gold medal of the Professional Institute of the Public Service of Canada for his contributions to national well-being in a field of pure or applied science.

Lloyd G. Williams, M.A., formerly with the Saskatchewan Department of Public Health, Regina, has joined the staff of the research and statistics division, Department of National Health and Welfare.

Dr. A. J. deVilliers, clinical consultant, occupational health division, Department of National Health and Welfare, recently returned from Newfoundland where he undertook an extensive investigation into health hazards associated with fluorspar mining in that province.

J. F. Morgan, Ph.D., chief of the biochemical research section, Laboratory of Hygiene, Department of National Health and Welfare, has been selected for the 1959 Merck lecture award, given annually to an outstanding younger chemist in the fields of organic chemistry, biochemistry or agricultural chemistry. The award lecture is to be delivered at the annual meeting of the Chemical Institute of Canada in Halifax, N.S., in May.

Louis Greenberg, Ph.D., chief, biologics control, Laboratory of Hygiene, Department of National Health and Welfare, visited the United Kingdom, the Netherlands, Denmark and Germany in April and May to inspect the plants of biologics manufacturers licensed to sell in Canada.

W. L. Ball, Ph.D., laboratory services, occupational health division, Department of National Health and Welfare, attended an international symposium on maximum allowable concentrations of dangerous substances in common use in industry and agriculture, held in Prague, Czechoslovakia, in mid-April under the auspices of the Permanent Committee and International Association on Occupational Health.

The University of Alberta, Edmonton, was recently awarded a national health grant of approximately $20,000 to assist with providing bursaries and the costs of setting up a medical laboratory science course to train staff for hospital laboratories.

Miss Justine Delmotte, a graduate in public health nursing from McGill University, who for the past eight years has served with WHO, has joined the staff of the civil service health division, Department of National Health and Welfare, as a nursing counsellor.

The National Research Council of Canada has received an increase of 85% in the funds made available to it by the government. In 1957–58 the Council awarded 300 graduate scholarships and fellowships for university study and 500 grants were made for research projects at Canadian universities. The total cost was 3.6 million dollars. This year, the program consists of 400 scholarships and 700 grants-in-aid with a total cost of 6.7 million dollars.

Nova Scotia

A nutrition conference was held at Dalhousie University March 12–14 sponsored by the Nutrition Division and the Nova Scotia Dietetic Association with assistance from the National Health Grants program. Members of the Faculty of Medicine and the Atlantic Regional Laboratory, National Research Council, gave valuable support. About 150 delegates from the four Atlantic provinces representing the medical, nursing and dietetic professions and the student bodies of Dalhousie medical and dental schools attended.

Forty public health nurses attended an institute sponsored by Dalhousie University, March 11–13, entitled "Nursing aspects in the prevention, cure and control of heart disease".

New Brunswick

Eight public health nurses of the New Brunswick Health Department and three

other nurses are spending two months at the Provincial Hospital, Lancaster taking a course in psychiatric nursing for public health nurses. The course is being supervised by the Hospital's department of nursing education under the direction of Miss Lois Smith, director of nursing and formerly field supervisor, public health nursing service. The course was designed to provide the nurse with some knowledge and understanding of the prevention, cause, symptoms and treatment of the more common mental illnesses. In addition to the many classroom periods, the nurses spend time in the wards and departments of the hospital observing and participating in the day-to-day activities of the hospital. In this way they come into personal contact with the patients and engage with them in recreational and therapy activities.

The Moncton Tuberculosis Hospital, in operation since 1947 under the New Brunswick Department of Health and Social Services Tuberculois Control Program, is to cease operation in the near future. Its closing will leave four tuberculosis sanatoria in operation in the province. The number of new medicines and techniques has sharply reduced the average time of treatment, providing a much more rapid turnover of patients. At present there are 120 patients in the Moncton Tuberculosis Hospital. It is estimated that the closing of the Hospital may result in a saving of as much as $400,000 to the Department in its tuberculosis treatment program without reducing in any way the quality or extent of the program.

Ontario

Ontario Health Minister Dymond announced recently that plans are now under way to extend present services of his Department to include a specialized radiation hazard control laboratory which will be equipped to assess hazards and the measures used to control them and to conduct field studies related to natural radiation background. The Department has concerned itself with the possible hazards to health resulting from the increasing use of sources of ionizing radiation. A special department committee has been assessing the extent of these sources and is presently undertaking a province-wide survey of medical and hospital use of X-rays, radium and radioactive isotopes.

The Ontario Department of Health's Division of Industrial Hygiene, in co-operation with the Department of Labour, has prescribed safe operational conditions for most installation, where ionizing radiation is used in industry. Close collaboration is maintained with the Atomic Energy Control Board of Canada and the Radiation Control Division of the Department of National Health and Welfare. At the present time the average citizen is receiving a life-time total radiation far below any health hazard level, but it is advisable that steps be taken to reduce unnecessary exposure to an absolute minimum.

Manitoba

A new northern health unit was established on April 1 with headquarters at The Pas. Dr. P. Lommerse was appointed medical director. The unit will be responsible for studying the needs of the general area and will provide the town of The Pas with typical local health unit services. The new health unit is the first step in providing complete public health service for the northern area of the province on a full-time basis.

The Government of Manitoba will establish a rehabilitation hospital in Winnipeg to serve the citizens of the Province. This will relieve pressure on active treatment beds in general hospitals and will contribute towards the provision of a more comprehensive service for disabled persons. It is expected the building will be completed in 1961.

During 1958, Manitoba witnessed a rapid and widespread development of commercial, artificial swimming pools, and very careful scrutiny is being given to the public health act regulations governing their operation. It is understood that new legislation is being considered which will place the licensing and maintenance of safety facilities in pools of this kind under the jurisdiction of the Department of Mines and Natural Resources, and that the responsibility for health protection standards and operational features will remain with the local health authorities.

Alberta

A refresher course in Paediatrics and Obstetrics was held in the Jubilee Auditorium, Edmonton, Feb. 23–25, under the joint sponsorship of the University of Alberta and the Alberta Division of the Canadian Medical Association. Guest speakers included Dr. Harry Medovy, Professor of Paediatrics at the University of Manitoba, Dr. Robert Kinch, Professor of Obstetrics at the University of Western Ontario, and Dr. Jean Webb, Chief of the Division of Child and Maternal Health at Ottawa. The course was attended by more than half of Alberta's medical officers of

health, and by some fifty public health nurses.

The Alcoholism Foundation of Alberta conducted a seminar for public health nurses on Feb. 24 and another for medical officers of health on Feb. 25. Alcoholism was recognized as a public health problem, and consideration was given to the means by which the Foundation's services might be extended beyond the confines of Edmonton and Calgary and into the health unit areas.

British Columbia

In conjunction with an Occupational Health Conference organized by the Vancouver Board of Trade and the Greater Vancouver Health League, a joint meeting of the Northwest Association of Occupational Medicine and the Occupational Health Nurses Group of the Registered Nurses' Association of B.C., took place in Vancouver on March 7. The Conference, held on the preceding day, was attended by members of the medical and nursing professions in addition to representatives of management, unions, safety and first-aid groups.

The 1959 session of the British Columbia Legislature witnessed notable changes in the upper administrative levels of public health and welfare branches. In a reorganization of departments, the Department of Health and Welfare became the Department of Health Services and Hospital Insurance, with a deputy minister heading each of the three branches of Health Services, Mental Health Services and Hospital Insurance Service. The Mental Health Services had previously been under the Provincial Secretary's Department. The former Welfare Branch was raised to the status of a separate department.

Under the chairmanship of Dr. F. McCombie, Director of the Provincial Health Branch Division of Preventive Dentistry, a "workshop conference" on dental health education in the Fraser Valley was held at Haney on Feb. 26.

The Boundary Health Unit, lying between the Greater Vancouver Metropolitan Area and the international border, embraces a number of communities with rapidly growing populations. Industrial growth and large public works projects are contributing factors. On February 18, the new North Surrey office of the Unit was opened at Whalley, with a staff of six public health nurses and two statistical clerks.

After half a century of continuous operation, Tranquille Sanatorium ceased to exist as a tuberculosis institution in September 1958. Acquired in 1907 by the B.C. Anti-Tuberculosis Society, it was taken over in 1921 by the Provincial Government, and for more than two decades saw continuous expansion. Following the advent of antimicrobial therapy there was a marked acceleration in the turnover of tuberculosis beds in the province, and with an increasing resistance of patients from the more heavily populated coastal area towards leaving family and friends for treatment at Tranquille, in the interior, the Sanatorium occupancy began to fall off. By 1954, the process of closing the institution, floor by floor, building by building, had begun. Eventually, through normal bed turnover, the Pearson Tuberculosis Hospital and the Willow Chest Centre in Vancouver were able to absorb all patients in the province. Towards the end of 1958, the institution at Tranquille was turned over to the Provincial Mental Health Services, to serve as a school for mental defectives.

Appointments:

Mrs. Charlotte Toder has been appointed Supervisor of Nursing Education at the Division of T.B. Control in Vancouver, succeeding Miss Eleanor Kunderman, who has accepted a position with the World Health Organization at Teheran.

Coming Meetings

Canadian Public Health Association, June 1–3, Sheraton-Mt. Royal Hotel, Montreal, Que.

Canadian Tuberculosis Association, June 2–5, Nova Scotian Hotel, Halifax, N.S.

Nutrition Society of Canada, June 12, School of Hygiene, University of Toronto, Toronto, Ont.

Canadian Medical Association, 91st annual meeting, to be held jointly with the British Medical Association, July 18–24, Edinburgh, Scotland.

American Public Health Association, October 19–23, Atlantic City, New Jersey.

Books and Reports

STAPHYLOCOCCUS PYOGENES AND ITS RELATION TO DISEASE, *Stephen D. Elek, M.D., D.Sc., Ph.D., D.P.H. Professor of Bacteriology in the University of London, Consulting Bacteriologist to St. George's Hospital. Macmillan of Canada, 1959. 767pp., $14.25.*

Professor Elek's monumental publication fills a long-felt need in the field of medical bacteriology for a comprehensive and discriminating review of the vast and confusing literature on the staphylococcus. From a delightful historical survey to the detailed consideration of the many facets of this complex micro-organism the wide experience of the author is evident. The relationships of the staphylocoagulase and other diffusible products to pathogenicity are discussed at length, as are factors relating to virulence and disease, resistance to staphylococcal infection and immunity, and clinical problems of staphylococcal infection. The more than 200 pages of references provide an invaluable bibliography for students, clinical bacteriologists and research workers. The author has made a most significant and timely contribution in a field of widening interest and importance.

DISINFECTION AND STERILIZATION, THEORY AND PRACTICE, *by G. Sykes. Published by E. & F. N. Spon Ltd., 15 Bedford St., London, W.C.2, England, 1958. 396 pp., 75s.*

In the foreword Professor G. S. Wilson, Director of the Public Health Laboratory Service of Great Britain, speaks of the extent of the field that is covered in this volume and of the author's chemical qualifications and long experience of applied bacteriology which fit him for the task.

This volume is of importance to medicine and its allied fields, to sanitary engineering, to the dairy and food industries and to various manufacturing processes. Adequate and reliable methods for disinfection, preservation and sterilization are of increasing importance in the welfare of the whole community. Great advances have occurred during the last twenty-five years and the author presents a considered appraisal of these developments. He confines himself to the chemical and physical aspects of disinfection and sterilization omitting discussion of chemotherapy and the role of antiseptics. The Theory of Disinfection and Methods of Testing are presented in Part 1; Methods of Sterilization in Part 2; Air Disinfection and Sterilization in Part 3; Disinfection of Viruses in Part 4; Chemical Disinfectants in Part 5; Preservation and Preservatives in Part 6.

This is a book that can be highly recommended.

FROM WITCHCRAFT TO WORLD HEALTH, *by S. Leff, M.D., D.P.H. and Vera Leff. Brett-Macmillan Ltd., Galt, Ontario, 1958. 236 pp., $4.50.*

Dr. S. Leff is medical officer of health of a large metropolitan borough in England and his wife, Vera Leff, is a writer of short stories. The authors tell the story of man in his search for health. It is the story of how men have struggled and triumphed—how mankind has made medicine. It tells of the way men lived in different periods and of the illnesses from which they suffered. Through its pages we look at disease as part of the whole environment and we think along the lines of social medicine. As the title indicates, the story is unfolded of primitive man, Egyptian medicine, Greek medicine, through the Renaissance, the period of the industrial revolution to the twentieth century. The closing chapter "Looking Forward" reminds us of the true purpose of medicine as expressed in the constitution of the World Health Organization and the fulfillment of the hope "a world of healthy, happy people at peace".